APRIL 1950

# MOTOR trend


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## *1950 cars set economy marks in rugged run*

by A. C. PILLSBURY, *Regional Director*
American Automobile Association

**GRAND CANYON**—Competing in the world's greatest stock car test, 31 American automobiles, driven by non-professionals, set a high average miles per gallon of 22.074 and scored individual performance and economy records. Maximum legal speeds were observed in the 751-mile 18½-hour grind.

Sweepstakes winner was Mercury, with a ton miles per gallon of 61.27, a miles per gallon figure of 26.524. The 10 class winners were: Class A, Willys Jeepster, 26.099 miles per gallon; Class B, Ford Deluxe, 23.326 miles per gallon; Class C, Kaiser Special, 23.946 miles per gallon; Class D, Mercury, 26.524 miles per gallon; Class E, Studebaker Land Cruiser, 24.887 miles per gallon; Class F, Frazer Manhattan, 23.907 miles per gallon; Class G, Cadillac 61, 22.972 miles per gallon; Class H, Cadillac 62, 22.525 miles per gallon; Class I, Cadillac 60 Special, 22.080 miles per gallon; Class J, Cadillac 75, 17.245 miles per gallon.

Sponsored by General Petroleum Corporation and certified by 3-A, the rigidly controlled test clearly demonstrates that performance *with economy* is within the reach of every motorist when the grade of gasoline best suited to the operation of the car is used and the car is properly and safely driven. Entrants selected either regular (Mobilgas) or premium (Mobilgas Special) grade of gasoline.

Run conditions were designed to test performance and economy; into the 2-day test we crammed every temperature and altitude extreme the average motorist would encounter in a year.

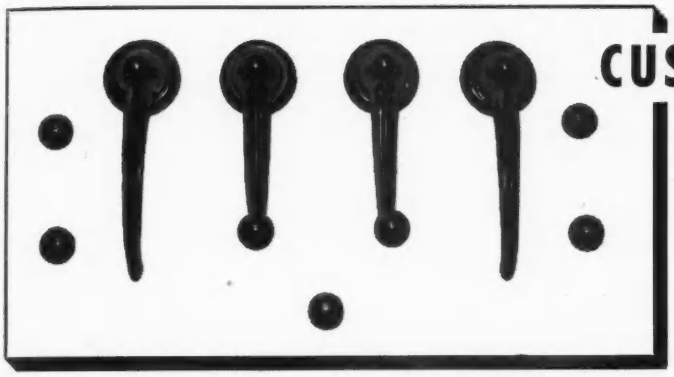
To illustrate the relationship of performance and economy to correct lubrication, 3-A officials drained, flushed, and refilled every crankcase with regular Mobiloil to give engines full protection under both hot and extreme cold temperatures.

Out of the Mobilgas Grand Canyon Run have come authentic results to guide the motorist in his choice of gasoline and motor oil. It proves again the ingenuity of the car builder and the technical skill of the petroleum chemist, who, combined, give Americans their biggest dollar value.

*California Custom Accessories* BY

# EASTERN AUTO

**"California Custom Accessory Headquarters"**



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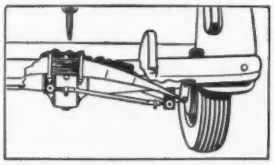

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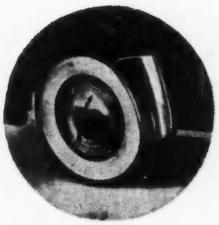

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### CHROME DASH PANELS

Throw away that old, worn-out plastic and replace with these beautiful chrome-plated, metal panels. Your restyling dollar really pays off with these gems.

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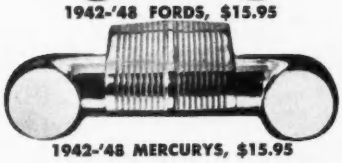

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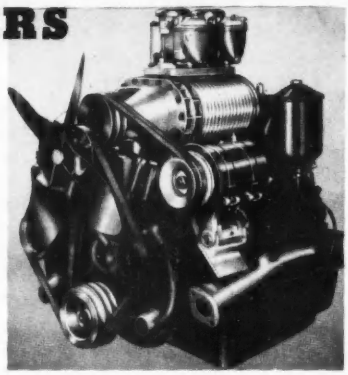

**ALL ITALMECCANICA** superchargers are low-pressure, Rootes-type blowers, V-belt driven at engine speed from the front crankshaft pulley. Generally speaking, the boost from these superchargers varies between 6 and 12 lbs. according to their capacity (displacement volume) and the type of engine (cubic capacity, whether L-head or overhead valve, and stock compression ratio.)

**ALL ITALMECCANICA** superchargers are self-lubricated and require no special feed lines from the engine oil pump. The two rear bearings of the supercharger are lubricated from grease nipples using hub grease, while the two front bearings derive lubrication from a small, leak-proof oil-bath containing SAE 90 oil. Inspection once every 1,000 miles is all that is required. Self-lubricating provisions on ITALMECCANICA superchargers greatly simplify installation and save time and expense while affording complete dependability.

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*Excise Tax Included—Sales Tax Additional

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MOTOR Trend
*The Magazine for a Motoring World*
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COVER: Lending her charm to the Jaguar XK-120 Sports Car is Miss Audrey Corrigan, a California native daughter. Also a California product is the Douglas DC-6A in the background, accentuating the lowness of the Jaguar. Photo by Lew Nichols.



## *road race problem*

OF LATE, we have received numerous letters and listened to many discussions on the pros and cons of road racing. How and where they should be conducted, and how they should be promoted.

It is not for us to decide—one way or the other—but we, like everyone, have our opinions. First of all, it is our belief that it is an absolute necessity to have a unity of effort . . . a co-operation among all groups and members of the racing sport.

How to obtain such co-operation? Why not have everyone put aside their petty jealousies and meet in an effort to consolidate into *one national* organization? The AAA has proved the necessity of this for the survival of track racing and it can be no less true for road racing.

Where should road races be conducted? On city streets is out of the question in most states, although this is probably ideal from the spectacular standpoint. But laws, safety regulations, and control of crowds rule this out in most instances. Where then? On private property? Fine, provided that the owner of the huge tract of land necessary is willing to donate his property. Airport runways can be used, provided that CAA regulations do not prohibit closing of the field.

And how should road races be promoted? We believe that, wherever possible, a road race, or any other amateur auto sporting event, should be promoted and conducted by a club that is both experienced and capable. If any monetary gains are to be realized, such funds should revert to the club to meet expenses, with the remainder going to a worthy charity. If road races are promoted for individual gain, then, in our opinion, it can never be a success—the sport will die before it is even reborn.

# Mercury Wins Economy Event

## MOBILGAS GRAND CANYON RUN

**CONGRATULATIONS by R. L. Minckler, president of General Petroleum and A. C. Pillsbury, AAA, are given to Art Hall and Bill Stroppe driver (far left), for winning the Mobilgas Grand Canyon Run**

IN BUYING a car, Mr. Motorist can be shown many things—styling, comfort, riding qualities, acceleration—but the most difficult thing to graphically portray is fuel economy. And yet this feature is one that determines, to a large extent, the advisability of buying a particular model car.

Automobile engines have been constantly improving since the first internal combustion engine was invented. To gauge their improvement in terms of fuel economy, and to test the efficiency of present-day gasolines, the General Petroleum Corporation designated the AAA to represent Mr. Motorist in a comprehensive test of engines and fuels, known as the Mobilgas Grand Canyon Economy Run.

The route for this field test encompassed road and temperature conditions in a two-day period that the average motorist would only see in a year of driving. The cars were driven from Los Angeles to the south rim of the Grand Canyon, from below sea level on the floor of Death Valley, through winding, desolate mountains to snow-covered peaks. A more comprehensive test would be difficult to imagine. Into a total elapsed time of 18½ hours were packed temperatures of 29° to 68° F, elevations from 178 feet below sea level to 7005 above, and 751.3 miles of curves, grades, hump-backed and straight highways.

Maintaining the average speed of 40.6 mph necessary to complete the run in the alloted time was difficult in itself; obtaining the average fuel economy of 22.074 miles per gallon (for 31 cars) was highly commendable and a tribute to drivers, car manufacturers and the makers of Mobilgas. This definitely shows Mr. Motorist that, with the proper maintenance and correct driving technique, good mileage figures can be had from *all* stock 1950 models.

Several different classifications were made for the competing cars to provide an equality standard, the cars being classed according to price bracket. To provide a basis of comparison for all cars, a ton-mpg figure was chosen instead of vehicle mpg, for with the latter method, a heavy car with good fuel economy for the particular engine could not compare favorably with a light car of equally good fuel economy. The added weight of the heavy car would drop its economy. The ton-mpg figure was arrived at as follows: the weight of the car and passengers in tons, times the miles traveled (which in all cases was 751.3), divided by the amount of gasoline consumed.

Winning the Sweepstakes Award on the basis of the most ton-mpg was the Mercury V-8, entered by Art Hall of Long Beach, California. This car averaged 61.27 ton-mpg and 26.52 mpg. Second and third, respectively, were the Cadillac 60 Special, with 59.12 ton-mpg and 22.08 mpg, and the Cadillac 62, with 58.57 ton-mpg and 22.53 mpg.

Class awards were made to the first three cars in each division. The winner of each division is shown below.

| CLASS | CAR MAKE | MPG | TON-MPG | POS'N |
|---|---|---|---|---|
| A | Willys Jeepster | 26.10 | 44.30 | 25 |
| B | Ford DeLuxe 6 | 23.33 | 48.58 | 17 |
| C | Kaiser Special | 23.95 | 53.04 | 9 |
| D | Mercury | 26.52 | 61.27 | 1 |
| E | Studebaker Land Cruiser | 24.89 | 55.69 | 7 |
| F | Frazer Manhattan | 23.91 | 54.33 | 8 |
| G | Cadillac 61 | 22.97 | 58.52 | 4 |
| H | Cadillac 62 | 22.53 | 58.57 | 3 |
| I | Cadillac 60 Special | 22.08 | 59.12 | 2 |
| J | Cadillac 75 | 17.25 | 51.09 | 15 |

**WINNING car crosses Hoover Dam on second leg of Mobilgas Grand Canyon Run**

Obtaining such good fuel economy from entered cars was a combination of maintenance and driving, which include (1) maintaining the proper tire pressure (minimizing rolling resistance); (2) the use of correct viscosity grade of lubricating oil in the transmission and engine; (3) proper carburetor settings, including a clean air filter; (4) keeping the automatic choke at the proper setting; (5) correct spark plug gap and ignition timing; (6) good driving technique, including an absolute minimum use of low gears and brakes, and the avoidance of high speeds. On the test run, the drivers also kept their engines operating at as high a temperature as possible for maximum thermal efficiencies (the higher the differential between the explosion and exhaust temperatures, the better the thermal efficiency and fuel economy) and took advantage of overdrive on downgrades by allowing the engine to "free wheel," not using the throttle.

The event was limited to 1950 stock, four-door sedans that had not been driven more than a total of 5,000 miles. To qualify, the car had to be one that was catalogued, advertised and sold through regular channels.

At the Impound Area prior to the run, each car was thoroughly checked by AAA officials to make certain that they were stock. The thoroughness of the inspection is a credit to AAA officials, headed by A. C. Pillsbury. Re-

gional Director of the Contest Board. Each engine was completely disassembled, and every component was then gauged, measured and weighed to make certain that it was absolutely stock.

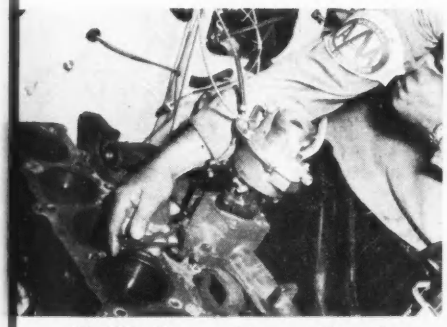
The combustion chamber was checked to its stock design; the cylinder bore was measured; the pistons and rods were weighed. Carburetors were checked for venturi sizes, flange sizes and jet sizes. All components of the running gear were thoroughly inspected, including clutch, transmission, overdrive, rear axle and wheels.

After such a rigid inspection, if a valve spring had too much tension, or if the intake ports were polished, or if too much weight was removed from a connecting rod, this fact was certain to be found. This assured each manufacturer an equal chance and allowed the AAA to state, without qualification, that a car that passed was *stock*.

Each car was given an analyzer and dynamometer check for the purpose of testing the speedometer, gear ratio,

PHOTOGRAPHS BY ART STREIB STUDIO

**ALONG the 751-mile route, all types of terrain and weather were encountered**



**TECHNICAL committeeman Harry Stevens measuring Chevrolet intake manifold**

**TORQUING a Lincoln rod is Ray Johnson, as Henry Banks and John Deaton watch**

shift points and the actual brake hp delivered at the rear wheels. After this thorough check, each car was lubricated with Mobiloil and greases. The radiator cap, oil dip stick, hood and gas filler cap were then sealed. Just prior to the run, all levels were topped off.

The American Automobile Association, which is known for having sanctioned automotive events throughout the country, should receive a great amount of credit for the efficient manner in which they conducted this event. Over three hundred officials were supplied by the AAA to inspect cars and to man check points along the route.

From this first postwar revival of the Mobilgas Grand Canyon Run, the makers of Mobilgas, the automobile manufacturers, and the general public have learned many things. And it is a certainty, judging by the success of this year's run, that future events will be just as successful.

*Interesting Sidelights*: the winning car, Mercury, not only averaged the highest ton-mpg, but also the second highest vehicle mpg figure . . . the fastest time was recorded by the Cadillac 60 Special, which also took second place in ton-mpg average . . . the Mercury drove from Angeles Crest to Lone Pine (about 180 miles) *without* overdrive . . . all engine components of the Mercury were carefully balanced to give optimum performance . . . first in mpg economy according to engine types were the 4's with 25.7 average, the 6's were second with 22.6, the V-8's were third with 20.1 average, and straight 8's were last with 19.6 average . . . best mpg economy was by Studebaker Champion (26.6), Mercury (26.5), Nash Ambassador (26.4), Willys Jeepster (26.1), and Nash Statesman (25.5).

OFFICIAL TABULATION OF RESULTS

| CLASS | CAR MAKE | MPG | TON-MPG |
|---|---|---|---|
| A | Willys Jeepster | 26.10 | 44.30 |
| | Willys Jeepster | 25.37 | 43.13 |
| | Willys Jeepster | 25.46 | 43.09 |
| B | Ford 6 | 23.33 | 48.58 |
| | Chevrolet | 21.07 | 44.04 |
| | Plymouth | 21.25 | 43.84 |
| C | Kaiser Special | 23.95 | 53.04 |
| | Studebaker Champion | 26.55 | 51.84 |
| | Nash Statesman | 25.52 | 51.36 |
| | Dodge Coronet | 21.39 | 47.37 |
| D | Mercury | 26.52 | 61.27 |
| | Nash Ambassador | 26.42 | 58.46 |
| | Studebaker Commander | 23.79 | 52.65 |
| | Hudson Pacemaker | 22.60 | 52.25 |
| | Oldsmobile 88 | 20.19 | 47.60 |
| | DeSoto Custom | 18.78 | 43.43 |
| E | Stude. Land Cruiser | 24.89 | 55.69 |
| | Oldsmobile 98 | 19.45 | 48.13 |
| | Packard 8 | 18.92 | 47.30 |
| | Chrysler Windsor | 19.85 | 47.29 |
| F | Frazer Manhattan | 23.91 | 54.33 |
| | Hudson Commodore | 21.39 | 52.29 |
| | Lincoln | 18.15 | 48.14 |
| | Chrysler New Yorker | 17.11 | 45.25 |
| | Packard Super | 16.00 | 41.77 |
| G | Cadillac 61 | 22.97 | 58.52 |
| | Kaiser Virginian | 23.97 | 55.78 |
| H | Cadillac 62 | 22.53 | 58.57 |
| | Lincoln Cosmopolitan | 17.56 | 49.34 |
| I | Cadillac 60 | 22.08 | 59.12 |
| J | Cadillac 75 | 17.25 | 51.09 |
| | *Average of 31 cars* | *22.07* | *50.29* |

# A PRODUCTION

*by H. Wieand Bowman*

THE TWO foremost questions in most sports car enthusiasts' minds are: why doesn't the United States have a production-line built sports car—and is there a possibility of such a car in the near future?

Since each individual owner and each sports car group seem to have a different definition as to what constitutes a sports car, for this discussion we will arbitrarily define a sports car as one *that gives a sporting performance in a stock condition.* The word *sporting* will be considered to include better than average pick-up through gears, higher than average top speed for cubic-inch displacement involved and better than average roadability under varying road conditions. (NOTE: *for a complete definition of a sports car, see "A Sports Car—Defined," February 1950* MOTOR TREND.—*Editor.*)

An immediate answer can be given to the question of the possibility of a production-line sports car in the near future—only one large production outfit seems likely to put its interest into action.

The lack of enthusiasm in a sports car design as a practical marketable car on the part of any of the leading automotive concerns is based primarily on the public apathetic attitude in general. Figures prove this.

America's closest production-line approach to the sports car in the past has been the soft-top convertible. Since the manufacturers' judgments are largely formed on proved sales appeal, the automotive industry, in giving consideration to sports car manufacture, uses the soft-top market as its gauge.

1947 marked American automotive industry's greatest production year for convertibles. In that year, of 3,558,178 automobiles of all design types manufactured, 173,863 were soft tops. Thus the sports-car-type accounted for only 4.9 per cent of the total.

Although the general average price for convertibles had increased approximately 60 per cent since 1940, soft-top cars manufactured in 1940 represented only 2.8 per cent of the total volume of production, or 105,335 soft tops of the 3,717,385 cars produced. The two leading producers of soft tops in those two comparison years were Ford and Chevrolet, with their convertible coupe models at factory prices $849 and $898, respectively, and $1948 and $1857 as their 1950 factory prices.

An immediate question arises that if the manufacturer had made more convertibles wouldn't there have been greater sales? In the early postwar years naturally that would have been true—dealers could have, and did, sell anything with four wheels and a horn. But that was a unique shortage condition.

Several of the larger Ford and Chevrolet dealers assured me that any increase in sales of soft tops because of more availability during any normal sales year would be so slight as to scarcely change the expected percentage. The reason for this is that the customary practice is to produce models on quotas based on dealers' territory surveys. Dealers for all major automotive concerns file monthly or semi-monthly requirement reports to their factory indicating their expected demand for various body types. Factory production is determined largely by these reports. So it would seem that the figure 4.9 per cent preference for a sports-car-type is to date the public's high-point interest in America's nearest approach to the sports car.

Wouldn't it be worth the effort of some concern to try to capture that entire 4.9 per cent group by producing a sports car? The answer to this one can't be backed by figures, it is pure theory, but the public relations representatives of three large manufacturers came up with the same general reasoning. Their answer was negative.

In essence they all said, sure. Five per cent of the total business roped in by one manufacturer on a single model type would be swell, but it couldn't be done. The American motorist has made quite plain his demand for comfort and this conception of comfort can only be obtained at the sacrifice of certain requisites of the sports car. For example, one of the manufacturer's representatives said, "Given a suspension that offers a feather-bed ride on well-paved highways, the same car would be lacking in roadability on rough or winding roads at high speed—and the American buyer is used to that feather-bed feel, wants it, and generally would refuse to accept harder riding characteristics."

Summed up, these three spokesmen for their industry felt that even though the convertible is the closest American cousin to the sports car, the two types of cars are in most instances considerably different in customer appeal. So

**CROSLEY HOT-SHOT, two seater sports, is becoming popular**

THOMAS J. MEDLEY

**N.X.L., a sporty, experimental model, is not a true sports car**

# ON SPORTS CAR?

ROBERT E. PETERSEN

**KURTIS sports car, if mass-produced, could be the answer**

they considered that 4.9 figure as a top potential appeal and since the true sports car would be lacking in appeal to a considerable number, the 4.9 per cent of total sales for such a car would be high.

In current conversation, when an American sports car is mentioned, the Kurtis car comes to mind. This car (featured in MOTOR TREND, September 1949) cannot be considered a production-line sports car, since only a few cars have been built, and production facilities are, as yet, limited.

The Kurtis Sports Car has a wheelbase of 100 inches, has a weight of around 2,300 pounds and is powered by a Ford or Mercury engine. Performance is exceptional: top speed turned by a Kurtis with a modified Mercury engine was 142.515 mph on alcohol, and 132.9 mph on gas.

Many of you may already have seen pictures of the single hand-made model N.X.I. (featured in MOTOR TREND, March 1950). This two-passenger two-door convertible, line-styled with a close resemblance to the Cisitalia, is a small, beautifully designed car in many respects. If put into production (which is highly questionable—and even if the design is approved, to quote Mr. George W. Mason, President of Nash, there would be a lag of 15 months before the car went into production), the N.X.I. is definitely *not* designed to give sports car performance. With a 36 hp Fiat (one of several motor installations under consideration) it would have a top speed of 65 to 70 mph. It is designed for great economy of operation at the sacrifice of acceleration and top speed . . . and to sell for $1,000 or less.

**NACIONAL, Mexico's bid for a sports car, uses a Ford engine**

COURTESY OF PETER STENGEL

At present, only one production-line manufacturer is giving the sports car any high degree of consideration. This is Crosley, due probably because sales of their conventional models have slumped considerably since the past year has brought a greater availability of standard sized new cars. The Crosley Hot Shot, two-seater sports model, may well within the next year's time steal much of MG's current popularity—at least that is what some MG owners think.

Those of you who attended the 1949 Watkins Glen Grand Prix and closely studied the performance of cars on the black-top steep winding upgrade from Old Corning Hill to White House "S" were doubtless amazed at the performance of the Hot Shot owned by Alex Ullman and driven by Perry Boswell. Until transmission trouble forced the Hot Shot from the race, it drove by the MG's with ease on the uphill leg of the course. Since that event, the Crosley Company has worked closely with the Motor Sports Club. During recent months more than 100 members of this club have been offered the opportunity to road test a Hot Shot, answer a questionnaire and submit added critical comment. On the basis of suggestions made by Motor Sports Club members and others who have tested the car,

*(Continued on page twenty)*

# WHAT IS RESTYLING?

*by George Finneran*

THE LAST issue of MOTOR TREND had an article by your correspondent stating, objectively we hope, the basic differences between the classic car and the restyled car. Although the article may not have aroused your curiosity, it did mine. What is a restyled car? How is it built? What actually do the terms used by restylists mean? Are restyled cars in a rut or are restylists going to do something new?

Very interested in getting the answers to these questions, I drove to the nearest shop, which happened to be the Barris Kustom Shop, in Bell, California. Upon my arrival, I began by asking George Barris where he had learned restyling.

"By working in a body and fender shop under a guy who really knew the business," George told me. George told me a lot more about himself, how he came to Los Angeles, worked in several shops around town, and finally went into business for himself. Sam Barris, George's older brother, went in with George on restyling cars and now has the Barris shop in Sacramento.

"What's your theory of design, what are you trying to do to a stock car when you restyle it?"

George said that his theory about restyling cars was that a restylist wants to make a stock car look better than it did when it left the factory and also make each restyled car different from others.

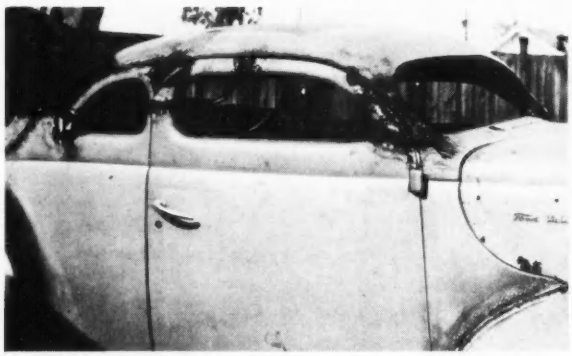
"How do you do this?"

"By the standard restyling techniques—molding, channeling, chopping—"

"Wait!" I said. "Wait a minute! I know what these terms mean (this was a big fat lie) but let's define them for our readers' benefit." Barris explained:

*To channel* is to cut the body loose from its supports on the frame and to drop the body down and around the frame. To do this, it is necessary to cut a channel through the body in order that it may rest on the frame in a new lowered position. It is also sometimes necessary to cut a more complicated channel through the body so that the bottom of the body will not bulge out as it surrounds the frame. Barris calls this a *body-drop*.

*A frame-drop* is when the body is left in its original position on the frame; but, by building up the frame step (or kick-up) over the rear axle, repositioning the rear leaf springs and/or flattening them, or cutting down and retempering a coil spring, in conjunction with the use of a reformed (dropped) front axle—the frame (and body) are brought closer to the ground. In other words, bring the wheels of the car into a position in which a line drawn from hubcap to hubcap (front to rear) will cut across the profile of the body at a higher point. Lowering blocks and reversed spring eyes on the rear springs would accomplish the same effect; the reason for the exaggerated kick-up over the rear axle of the *frame-drop* is to provide greater rear-axle clearance.



**EXTREME top chop by Barris of '40 Ford coupe. Sections of window posts are removed and top refitted into position**

*C-ing* is most often used in conjunction with the frame drop and is a semicircular cut in the frame, which allows clearance for the rear axle.

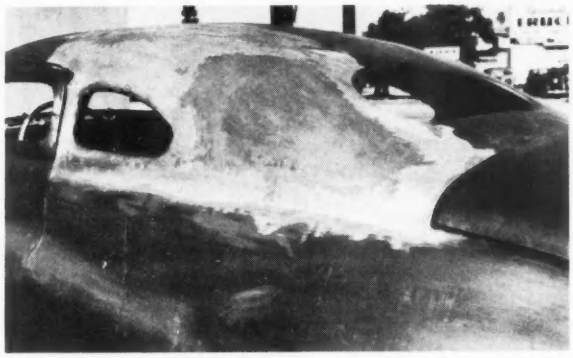
*Chopping*, now applied as a term mostly to solid-top cars, is the process by which the top of the car is brought

**CUSTOMIZED Ford by Art & Jerry's Custom Shop has removable fenders sealed into body, without leading. Top incomplete**

**LOWERING of Ayala '40 Ford coupe is aided by extreme (eight-inch) channeling. Steering column has been shortened**

closer to the body. The usual procedure is to cut the windshield posts at the halfway mark, then the door posts, and then around the back of the top so that the entire top may be lifted off. Windshield slant is determined, and either a new top panel is made out of sheet stock with an air-hammer, or sections are cut out of the old top. New pieces are then set in to provide the desired top contour.

Wiping the sweat off our brows, George and I talked about general styling techniques that he is interested in. George favors fadeaways (front fender running across doors into back fender) or a chrome strip strategically placed to break the bulky body line of the chopped-top car. He also likes a long smooth compound curve—almost flat—running from the top of a chopped coupe to the rear bumper, following as closely as possible the rear fender sweep. Colored-Plexiglas-and-chrome dashboards, gravel guards smoothed into the body fore and aft, push-button doors and



**PANEL from club coupe, stretched out, placed and welded into position, gives club coupe effect to this '40 Ford coupe**

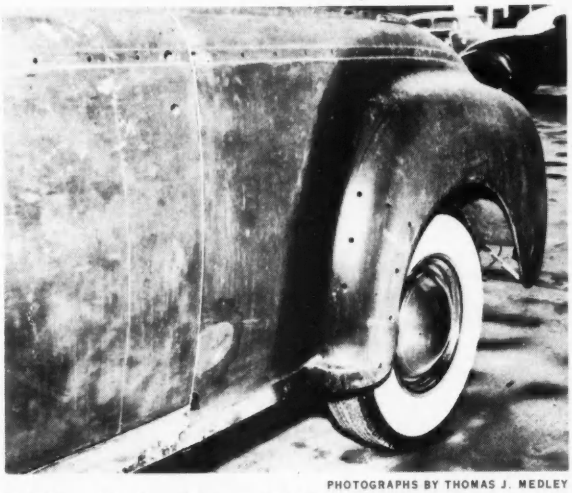
hood and trunk latches, recessed, untrimmed headlights and tail-lights, plates on the bumpers—these are some of the things George believes to be inherently good restyling features.

George is now spending much of his time working on a car of his own design from the frame up. Details are scarce, but it will have a staggered forward look, low grille set back in from the nose like an airscoop and what he promises to be "an entirely different treatment of the top." George is close-mouthed about his new baby because he, like all other reputable builders, deplores the idea-stealing so evident on many restyle jobs. This, he complains, is doing more to harm the development of hand-built body design than any other single factor.

"It doesn't take any brains or much skill to copy what some craftsman has already sweated out," he said, "and it isn't going to make next year's cars any better. Sure, you've got to learn from the men who know how, but if you haven't any ideas of your own you might as well drive a stocker."

"Thank you, George," I said, and thundered off to the east side of town.

I arrived at Gil and Al Ayala's Auto Body Works and soon ferreted out a scoop. Gil and Al, who have been in restyling business for a long time, are also working on a secret super-restyled car, the details of which are off the record. A scale model, however, has already been built and tested in a wind tunnel; this much, and a little more, I may divulge. The car itself will be powered by a V-8 engine with full speed equipment. Gil and Al expect it to clock 150 miles per hour. Several unusual features are



PHOTOGRAPHS BY THOMAS J. MEDLEY

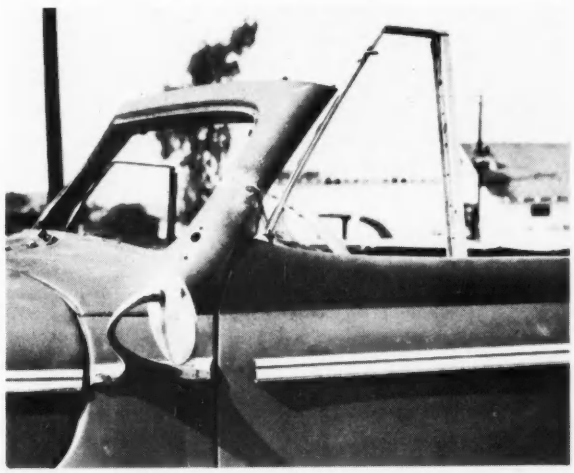
**BODY and fender of late-model Dodge has been prepared for filling and sealing. All chrome strips have been removed**

being incorporated into the styling. Each front fender will come to a point, forming a razor-edge line on either side of the grille. These lines will be covered by chrome strips. The grille will be set back from the front of the fenders. Finally, the top will be similar to the hard top on the Buick Riviera model but it will be held on by five clamps, easily removable in good weather. The allover appearance of the car will be reminiscent of the Lincoln Continental. No pictures of the model or detail sketches are being released now.

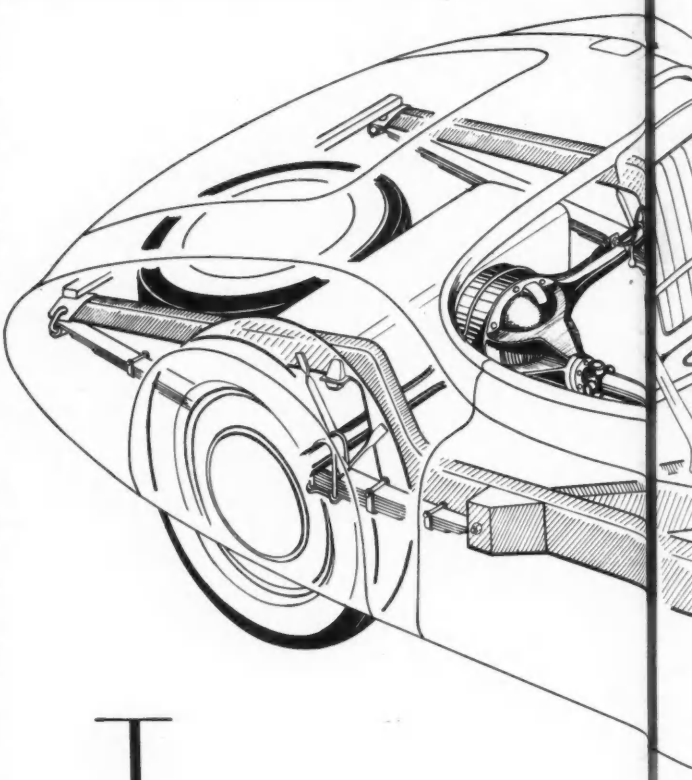
I thanked the brothers Ayala for tipping me off and asked how they got into restyling. It seems that Gil Ayala began restyling and also working on engines in 1940 in Alhambra, California. Since then, along with some hot rod and midget racing, he has devoted his time to restyling and full-scale designing of light, fast cars. Al joined him in 1945 when Gil started his own shop.

"Shall we define something?" I said. Reluctant, but willing to die for the cause, Gil explained his definition of molding and reshaping. Molding, of course, is a fairly simple term and is actually just the smoothing-in of all fender, body, and other joints with a fillet of lead to produce a smooth, flowing merge of surface curves.

*(Continued on page twenty-one)*



**TOP of this '47 Merc has been chopped 5½ inches. Note difference between top of windshield and top of quarter window**



# Jaguar

## XK-120 SPORTS CAR

*by Robert N. Hoeppner*

ENTHUSIASTS attending the Automobile Show at Earls Court, London, England, late in 1948, were unanimous in their acclaim of an entirely new entry in the sports car field. Combining meticulous mechanical design with a well balanced graceful appearance, the XK-120 Super-Sport Jaguar is the outstanding achievement of a distinguished marque.

Outstanding qualities of acceleration and maximum speed are combined with many things appreciated in a really high performance car. The seats afford a degree of comfort close to luxury. The flexible suspension allows a soft, though controlled, ride with the utmost stability and control while cornering. It is of special credit to the Jaguar that the brakes will bring the car to a stop from speeds above 100 mph. Designed from the ground up for maximum performance and efficiency, nothing has been overlooked, and no compromises have been made that would affect the performance of this remarkable new car.

In this new design the first feature to consider is the frame, because upon it, to a great degree, depends the road performance of the car in regards to stability and good steering. This frame is the result of careful designing and is one of the most rigid to be used. It consists of box-section side members, which are straight in both planes, eliminating torsional deflection from direct bending loads. These side members reach their maximum cross-section in the area just forward of the cowl. Forward of the rear axle a decided kick-up is apparent, allowing ample room for axle movement incidental to a flexible suspension, and which also provides a low level for the floor. The front crossmember is a straight, heavy box-section in the same plane as the side members, providing the utmost rigidity and ensuring a solid mounting for the front suspension units. Frame twist or corner-to-corner stiffness is obtained by a central cruciform member. The entire unit is assembled by electric arc welding.

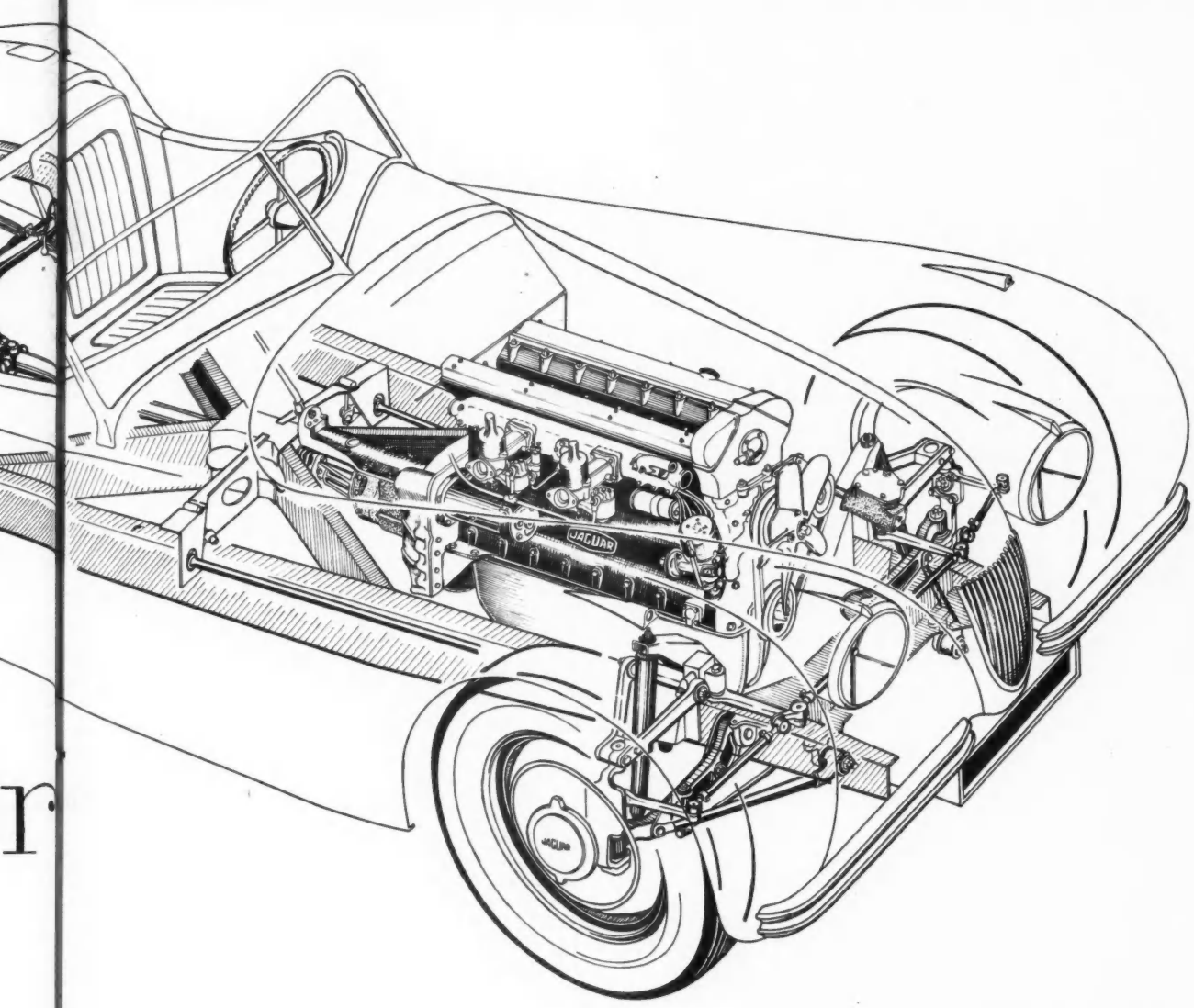
The independent front suspension, while along conventional lines, is of particular interest. The principle used is of unequal length lateral wishbones, and longitudinal torsion bars. The lower wishbone consists of a large "I" beam section, which carries the load from the wheel to the torsion bar. The latter is attached at the fulcrum point below the frame. A tubular strut, running from the outer end of the "I" beam diagonally forward to an attach point beneath the front crossmember, completes the lower wishbone and relieves the beam from the fore-and-aft loading caused by braking. The upper wishbone is anchored to a bracket above and outboard of the frame. The outer ends of the wishbones are ball sockets, which carry the swiveling assembly. This serves a dual purpose in completing the suspension link and steering movement.

This effective construction provides against lateral movement of the wheel since a single, instead of a double, joint forms the side of the steering parallelogram. The ball pins are hard chrome plated and the seats are a special graphite bronze. This combination is able to withstand hard usage and retain a low coefficient of friction. The ball sockets are self adjusting to compensate for wear. The torsion bars are made of silico manganese spring steel, splined at both ends, and are proportioned to ensure that stresses are low. The torsion bar mounting is free of any bending loads set up by braking, the rear mount containing an adjustable stop.

This suspension design provides a soft ride; however, it retains the road-holding and cornering stability characteristic of previous Jaguar cars. Girling telescopic hydraulic shock absorbers are used to obtain the necessary damping. They are mounted in a manner becoming ever more popular, angular, in which the bottom is attached far out on the "I" beam of the lower wishbone, and the top to a bracket incorporated in the upper wishbone mount. This method of shock mounting, in conjunction with the torsion bar stabilizer, reduces to a great extent side sway or roll.

Burman circulating ball-type steering is used, giving a positive but light control with three turns from lock to lock. The gear box is so mounted that the pitman arm movement corresponds to an idler lever on the opposite side of the frame. Connecting these levers and the steering arms of the wheel spindles are three links forming an articulated tie-rod, in which the outer links coincide geometrically with the suspension wishbones.

Designed to offer minimum air resistance, the body is




DRAWING BY ROBERT N. HOEPPNER

thoroughly streamlined, and its low build is immediately noticed. The absence of excessive chrome trim adds to the beauty, as this well-balanced and correctly proportioned design needs no excess adornment. The body is constructed of aluminum paneling over a stressed framework. The wide doors are carried on concealed front hinges, with door handles being installed in the interior only. The cockpit contains ample room and the ultimate in comfort for a sports design. Seats are of generous size and are independently adjustable for leg room. In combination with an adjustable telescopic mount for the steering wheel, the ideal driving position is readily available. The interior of the body, doors, side panels, and seats are upholstered in two shades of leather, beige and dark brown. The instrument panel and dashboard are similarly covered. Instrumentation and minor controls are grouped in a central panel, containing a large tachometer and speedometer to the right and left sides with the ammeter, oil pressure, water temperature, fuel gauge and clock located in the middle.

The heart of this new Jaguar is an exceptionally well-engineered design. Upon opening the hood you are greeted by highly polished aluminum overhead camshaft covers, the enameled triple branch exhaust manifold to the left, and the twin S.U. carburetors and fuel pumps on the right. The engine has everything that experience has found necessary to render high performance with reliability and be able to withstand prolonged periods of full power output.

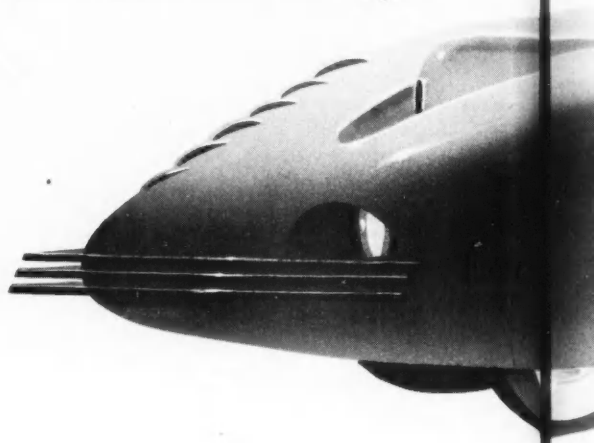
The bore-stroke ratio of 1.27 gives a piston speed of 3,750 ft. per minute at maximum bhp or 5400 rpm. The counterbalanced crankshaft is of generous size, having journals of 2¾ inches diameter. It has maximum rigidity due to the overlap of the crank pins in the webs. Seven large main bearings, well backed by numerous internal webs, support the crankshaft. Assuring a long, trouble-free life for the engine, the lubrication system is more than adequate to care for prolonged full power output. The oil pump is a large gear-type that supplies a generous volume of oil

*(Continued on page thirty)*

# The Fabulous Phantom

## DETAILS OF ONE OF CALIFORNIA'S MOST UNUSUAL CUSTOM CARS

*by Dan R. Post*



IN 1938, AFTER a year of devotion and back-breaking labor, the construction team of designer Rust Heinz and coachbuilder Maurice Schwartz introduced into the bright California sun one of the most unique automobiles ever made in the United States—the Phantom Corsair.

The Corsair—named after a swift bird of ghostlike grace—was a dreamboat in solid form to Rust Heinz, scion of the H. J. Heinz family. At 23, fresh from Choate, Andover and Yale, where he studied naval architecture, he promptly engulfed himself in a sea of imagination. Conceptions for years foremost in his mind became scale drawings, and in time, clay models. Aerodynamics were tested in a wind tunnel of his own creation and young Heinz thus developed his car in the light of functional streamlining. Sound engineering principles were amplified in the chassis to form an entirely new conception of weight distribution.

The prototype of this striking, aluminum-skinned Phantom Corsair was completed in early 1938, at an approximate cost of $24,000, using an extensively modified Cord 810 front-drive, with electric four-speed, pre-selector gear box.

The Lycoming V-8 engine ran a semi-race cam designed by Anthony Granatelli of Chicago. Lightweight pistons and rods were used and the weight of the flywheel was measurably reduced. Running gear changes entailed larger universal joints and the use of heavier springs, which were underslung on all wheels. Nearly the entire belly-side of the Corsair was smoothly covered, though a six-inch clearance was maintained. This sheathing is said to have eliminated road noises entirely.

The frame is constructed of steel, with the lower frame being chrome-moly steel, and the upper frame being an outer skin of steel alloy. The safety glass used throughout has a greenish tint.

Trimmed in deep, diamond pin-tucking in red leather and broadcloth, the interior was anything but sepulchral. Four rode comfortably across the 67½-inch front seat—with five if desired, though the Phantom's width was not appreciably greater than Detroit iron of today. Dos-a-dos seating was set up in the interests of trimmer lines, inconvenience for rear passengers being offset by the existence of two luxury compartments in the tonneau—complete with thermos bottles and matching spun aluminum glasses.

Besides every usual instrument, the dash panel carried a tachometer, oil level gauge, oil temperature gauge, battery charge level indicator, manifold vacuum gauge, altimeter-barometer and compass. Below the instrument panel is a "crash panel," made of steel, covered with cork, two-inch sponge rubber, and upholstered with pleated genuine leather.

Distinguished by its unusual provisions for safety and comfort at high speeds, Heinz' Phantom was padded heavily with ¾-inch cork and two-inch slab rubber—the entire interior being dedicated to safety with superb sound- and shock-proofing, and insulation. Instead of outside door handles, pushbuttons were used.

Standing a little over four feet above the road, access and egress were facilitated by an extra door above the main door—which automatically tilted upward by internal gearing—when the main door opened outward.

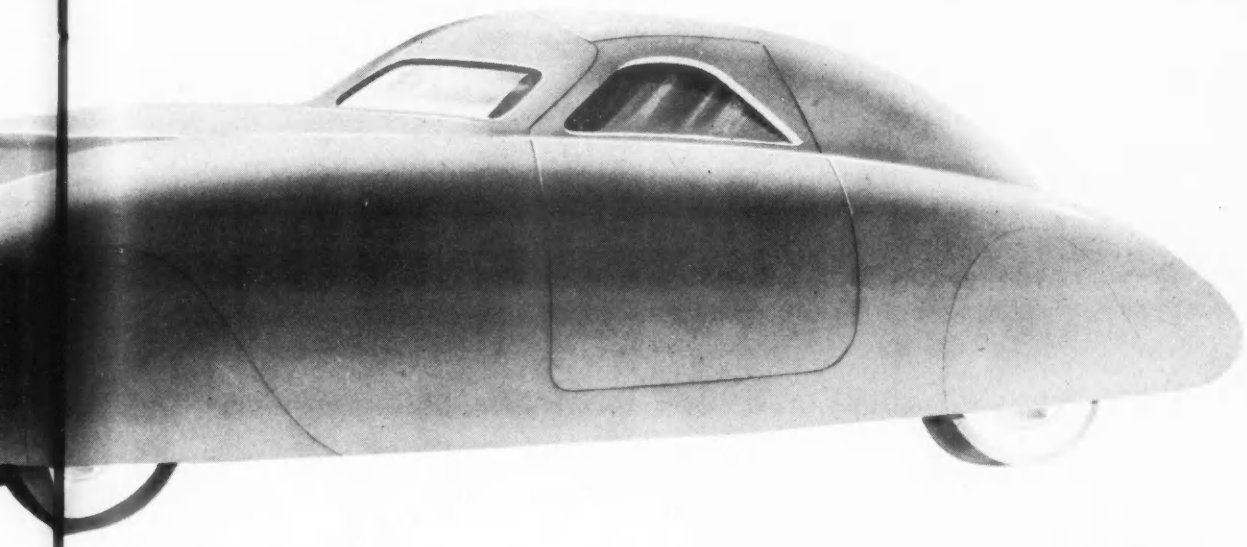
Extremely acute angles of approach and departure gave the Phantom a whopping over-all length of twenty feet, although its wheelbase was the standard Cord of 125 inches—the same as the contemporary Lincoln Cosmopolitan.

Burning up scene after scene at a seeming 95 mph, the Phantom Corsair starred in the motion picture *The Young in Heart*, in November, 1938. Featured as the "Flying Wombat," the Heinz car was supported by Paulette Goddard, Janet Gaynor, Billie Burke, Doug Fairbanks, Jr. and Roland "Topper" Young. This picture has become a perennial favorite and was televised in many areas in September, 1949.

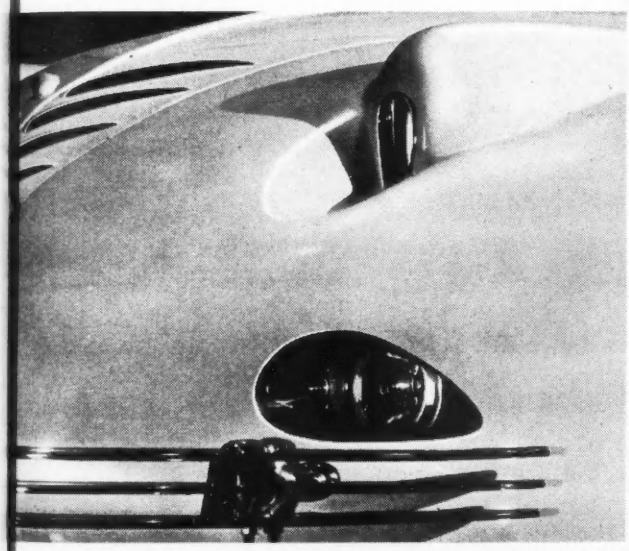
Top speed claimed for the car differs with the source. Before completion Mr. Heinz claimed 122 mph. Later he revised this to 115 mph. Present owner Dick Rush of Washington, D.C., has had it clocked at over 100 mph, though Anthony Granatelli vouches for its having once approached 130 mph. But even if the Corsair were capable only of reverse gear, she would remain one of the most celebrated custom jobs in this country.

Originally scheduled for possible limited series production, at around $12,500, the Phantom Corsair plans were terminated, not long after completion of the pilot model, on the shocking accidental death of its sparkling young designer—in another automobile.

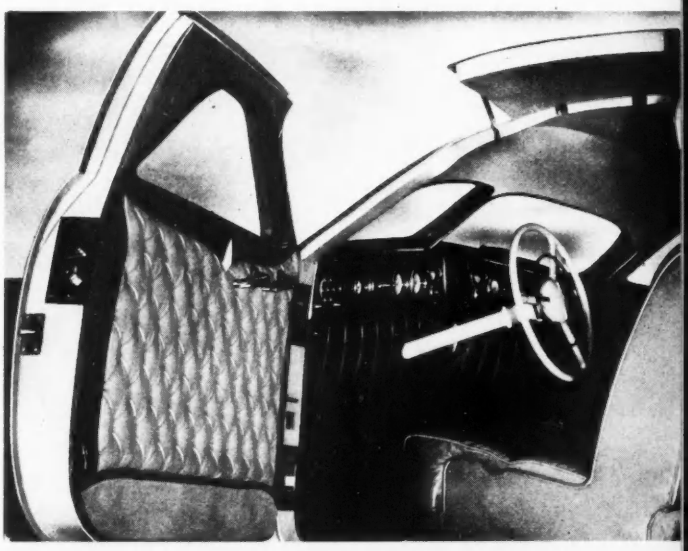
Several elements of its styling have been adapted to production lines in late years. The spirit of its designer and executor lives on in the fabulous Phantom Corsair, a lasting monument to the carefully nurtured dream of the late Rust Heinz.



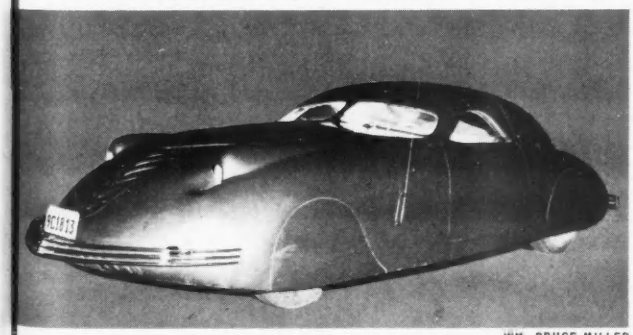
DRAWING BY ALBERT H. ISAACS



HEADLIGHTS were built in, as were foglights. Chrome-lined tunnels reflect light to sides of car, as well as forward. Inside the car tubular lights are used for illumination. This unique car was originally scheduled for production at around $12,500

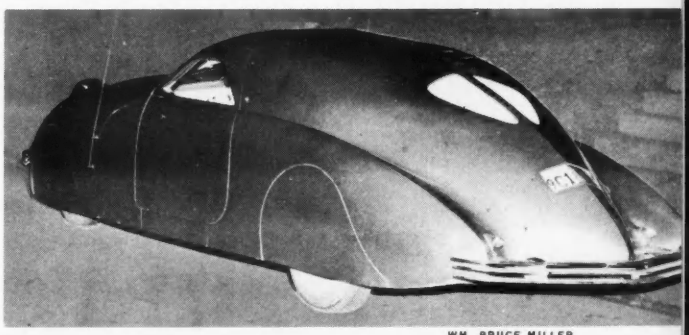


WIDTH of front seat of the Corsair is equal to, or surpasses, width of most cars built today, being 67½ inches. To provide more headroom, upper doors, which open and close automatically with the conventional doors, have been set in the top



WM. BRUCE MILLER

FOR its time, the Phantom Corsair embodied many advanced ideas of comfort, speed, safety and mechanics. It was thoroughly tested in wind tunnels so that it would be functionally streamlined. No door handles, since pushbuttons were used



WM. BRUCE MILLER

THE PHANTOM Corsair was also known as the "car styled for tomorrow," and had unusual features such as bumpers that were formed from three parallel plates of spring steel, connected by arms with spring action that worked hydraulically


PHOTOGRAPHS BY R. SIMS JONES

# RACE IN THE RAIN

*by Phillip Stiles*

AS OFFICIALS at the Palm Beach Shores pre-race meeting sadly surveyed the ominous black clouds overhead, the remark was made, "If they can do it in Europe, we can do it here." And so it was that the first SCCA road race of 1950 was held during a rainstorm at Palm Beach Shores, Florida, on January 3rd. Thirty-five super-tuned sports cars and drivers were entered in an event that could set a precedent—it was so neatly planned and conducted.

More than 25,000 fans lined the 2.1 mile course, which was but two lanes wide, had eight street-corner turns and an "S" curve. Right after the green flag dropped, uninitiated persons began mopping mixtures of rain drops and perspiration from their brows. On the first turn of the first lap, four cars bunched up and zoomed off the paving into the sand. They had to wait the passing of the balance of the field before resuming the chase. Pole position was held by Tom Cole in a Cadillac-Allard. He shot into the lead and held it for two laps.

George Huntoon, the ultimate winner, took over on the third lap and was chased by Miles Collier in the same Ford-Riley that brought him victory in last September's Watkins Glen Grand Prix. Then followed the famous English driver, Leslie Johnson, who came over from London with a Jaguar XK-120 to compete. Johnson, it will be remembered, won last year at Silverstone with his Jaguar in the production car category—and it was easy to see why! Your scribe, at the wheel of an Aerodynamic H.R.G., was lapped several times by the large displacement cars and had a rear view of Johnson's cornering technique. We have much to learn. However, the "Jags" were at an extreme disadvantage on this short circuit, because they lacked the necessary low speed torque coming out of the corners. To keep the engine winding sufficiently for maximum power was impossible on the slippery road surface.

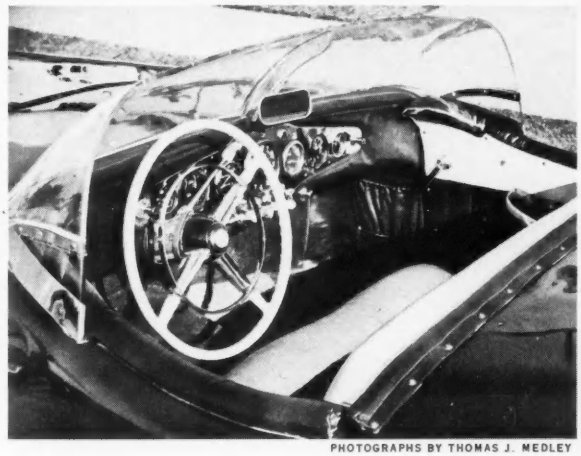
Handkerchiefs again mopped wet faces on that same first turn a few laps later when George Rand spun his Ferrari, straightened out, and quickly disappeared around the next corner. Spectators on the last turn didn't get much rest either, for along came the Ardun-Ford Allard, piloted by Zora Duntoz, in a dizzy spin that entrenched him in the sand. Spectators rushed to his rescue, but the car was

*(Continued on page twenty-two)*

**PRACTICE day, with two MG's on the right, three Healey Silverstones following. Huntoon is pulling away from the pits**

**TECHNICAL committee inspects author's Aerodynamic 1½ litre HRG. Car carries a spare tire and fuel tank under the hood**


**VICTORIOUS Huntoon accepts victory wreath, while Queen Barbara Mason exhibits SCCA floral tribute and plaque**

PHOTOGRAPHS BY THOMAS J. MEDLEY

# STYLED FOR SPORT

## California Custom Car

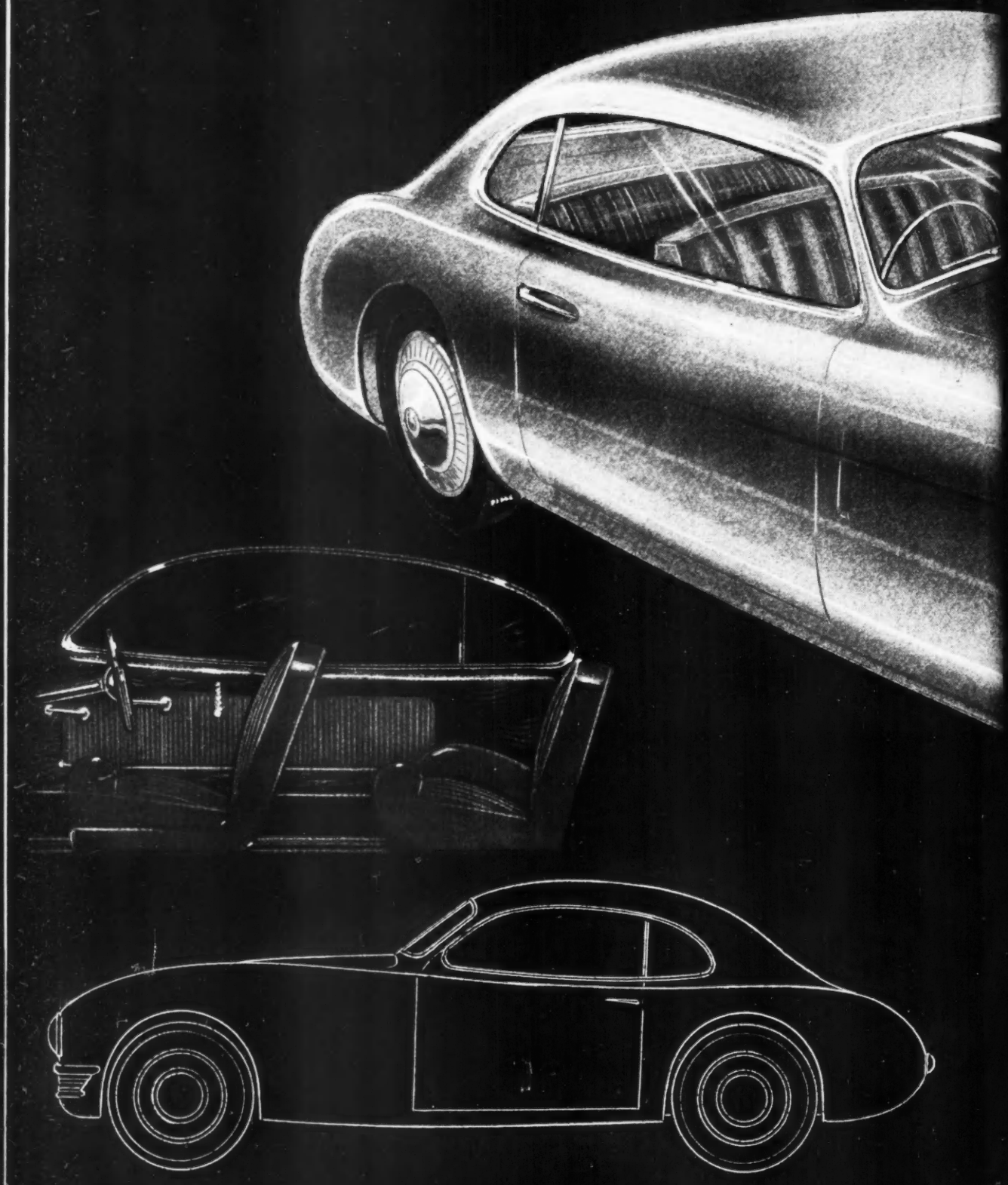
STYLED for sport, the car in the accompanying photographs was built by Lon G. Hurley, apartment owner of Long Beach, California, over a period of nine months. Hurley started with a '46 Cadillac engine and an "X" frame, the original frame structure being shortened and the "X" being relocated. Suspension consists of individual coil springs in the front and coil springs with rigid axle in the rear.

The front and rear fenders are remolded from '49 Cadillac fenders. The lower portion of the Cadillac grille is hidden behind the Cadillac bumper, so an air scoop has been installed below the bumper for cooling purposes. The hood was made from a Cadillac hood, while the rear deck was formed from flat sheet stock. There is a trap door in the rear deck for the spare tire. The windshield is made from molded Lucite.

The powerplant of Hurley's car consists of a stock '46 Cadillac engine, except for heads of 8:1 ratio. Hydra-Matic drive is used. Rear end gear ratio is 3.36:1. Dual manifolds are used, with each pipe being welded to a three-tube flare, extending through the lower portion of the Cadillac rear bumper.

The single, car-width seat is for three persons and is upholstered in dark maroon and white genuine leather. The specially built instrument panel includes a temperature gauge, speedometer, clock, oil pressure gauge, ammeter, altimeter, fuel gauge and an airspeed indicator. The pitot tube for the airspeed indicator is located in the lower left-hand corner of the grille. This airplane flavor stems from the fact that Hurley was in the aircraft business for over four years.

Dimensions of the car include a 120-inch wheelbase, 58-inch tread, 39-inch over-all height (not including the windshield) and a weight of 3,100 pounds.



# DESIGNED IN MILAN

Colonel Alexis de Sakhnoffsky presents here his version of how an Italian designer in Milan might design a two-door body on a 1950 Ford chassis. It has many characteristics of modern Italian school of thought: Flat hood, with lid type opening, enlivened by louvers; fairly flat body side, with a radius at the waist and a pronounced radius at the bottom; hood length is emphasized; headlights placed as low as possible; minimum amount of overhang at rear; curves are made as smooth as possible without too much chrome, although chrome molding is used to accentuate grouping of the windows; shallow roof, with light upperstructure; extremely wide doors; rear wheels not covered up, but emphasized by circular cutout in fender; recessed door handles; slim window posts; louvered wheel discs; close-coupled body; elaborate solid wood door decorations and the use of tassels for doorpulls. Alterations to the chassis necessary to fit this body would be lowering of the carburetor, dropping of the steering wheel, bringing the dashboard as close to the wheel as possible, and lowering of the seats to allow normal headroom.

## A Production Sports Car?

*(Continued from page nine)*

Crosley already has made a considerable number of changes. These include a gear shift alteration, to eliminate the overly long shift travel, and the availability of a low cost supercharger through its distributors.

In further investigating the possibilities for a production-line sports car, reports from three of the automotive trade publications, *The Motor*, *Automotive Digest*, and *Automotive News*, as well as data from several leading sports car dealers, J. S. Inskip, Inc. and Adams Motor Car Co., were combined to give a general picture of past and current demand for foreign sports cars. Naturally, the thought was that if an American-made sports car were to be made in any of the price ranges considered, at least a part of those sports car purchasers would switch from foreign to United States-built cars. This survey, too, merely emphasized the limitation of sales potentialities in the sports car field and further explained the reticence of any domestic manufacturer to enter into production of an apparent low demand product. Doubtless, any concern contemplating the manufacture of a sports car has made similar and more exhaustive surveys.

The Allard first entered the American market in September of 1947. During the year between September 1947 and September 1948 only 14 cars were sold—six in the East and eight on the West Coast. With the introduction of the Type-J competition roadster (see MOTOR TREND, December 1949) and a considerable drop in retail price, it is expected that Allard sales for 1950 might approach the 50 mark.

The sales of the four-cylinder Healey sports car, priced at $7,500, scarcely warrants enthusiasm on the part of an American manufacturer to seriously consider a more expensive bracket sports car. Six 2.4 litre (146.4 cu. in.) Healey's were brought to the United States in mid-1948 and only three were sold by the end of that year.

Yet, the greatest demand for foreign-built cars by the American public has been for the economy car, not the sports car. It is estimated that nearly 25,000 A-40 Austins were sold during 1948, with sales slumping when availability of American-built cars increased. Dealer requests for the Anglia and Prefect English Fords was more than 12,000 during 1948. It can be assumed that this demand, too, has dropped appreciably in recent months.

16,046 new foreign cars—15,321 of them English—were imported for sale in the United States during the first eight months of 1948. This compares with only 1,453 new foreign cars imported for sale in 1947 and 298 during 1939. Most of the recent imports have been in the $2,500 and under category (the majority of pre-war importations sold for $4,000 and up) and only a small percentage of these imports were true sports cars. In general, it can be assumed from these figures that there is a definite lack of buying interest in high-priced foreign cars. And, linked closely with this lack of interest in expensive foreign cars, is a high mortality rate in expensive domestic cars.

The production of domestic automobiles with a retail price of $4,000 or more fell from an all-time peak of 25,004 units in 1925 to 11,520 in 1929 (the biggest sales year in United States automotive history) before dropping to 2,532 units in 1932 at the bottom of the depression. High-priced car output continued its descent with only 410 units in the $4,000-and-over category being produced in 1937 (automobile industry's second biggest sales year). In the last normal pre-war year, 1941, only 229 cars were produced for sale in this price bracket.

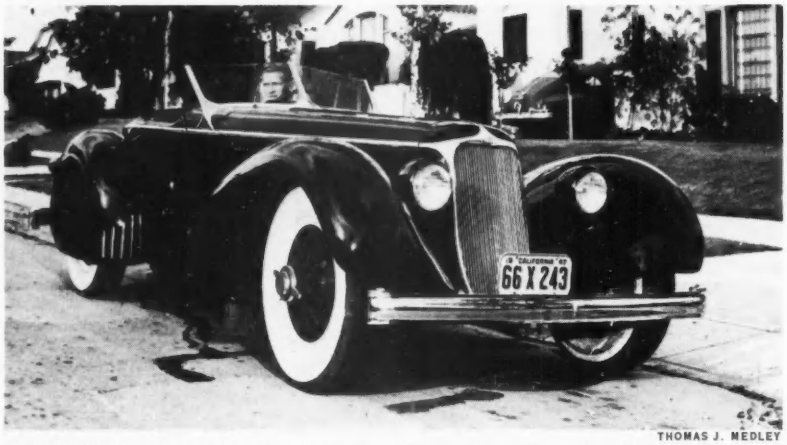
Automotive designers and engineers contend that wealthy buyers turned to less expensive makes during the pre-war period because models costing $4,000 or more did not appear to the prospective buyer to provide anything like that much additional value. Also, lines in the low and middle price range were continuously improved in performance, appearance and comfort.

So, it would appear that no American manufacturer is likely to produce a car in a field proved lacking in a volume market, *i.e.*, $4,000 and over. An apparent lack of interest, based largely on the limitations of soft-top sales in its price range, eliminates the middle price manufacturer's interest—so that the only hope of a production line sports car would appear to be in the lowest price field. This limits any potential sports car to the small car class, *i.e.*, powered by a motor of 1100 cc's (67.1 cu. in.) or less. And in this field, $1,200 and under, the manufacturer looks again to the volume demand car, which is the low hp, economical-to-operate car in this range.

Within the limitations this survey seems to have placed on the immediate future production of an American-built production-line sports car, it is still highly possible for some one of the established manufacturers to turn out a sports model comparable in performance to the MG. If it is done, it would be my prediction that it will be accomplished by use of one of the already proved foreign-built engines in the 40-hp-and-under class, most probably Fiat. The use of a fully proved European powerplant would eliminate expensive development and expensive tooling that the limited sales potentiality could not justify. Other than Crosley, which already has proved its 45 cu. in. engine, any other manufacturer exploring sports car production doubtless has already eliminated the idea of developing its own small capacity engine.

Apparently those dealers most interested in sports cars, too, have realized limitations of sales in all but the MG price range. And they also recog-

*(Continued on page twenty-seven)*




THOMAS J. MEDLEY

**KRUEGER 16, designed and built as an American version of a high performance European sports car in 1947. Almost all mechanical components are standard American parts. Powerplant is Marmon 16 delivering 225 hp at 4000 rpm. Wheelbase is 106 inches, built on Duesenberg chassis, weighing 950 pounds. Reported top speed is 140 mph. Car cost $10,000 to build, originally intended for retail at around $15,000**

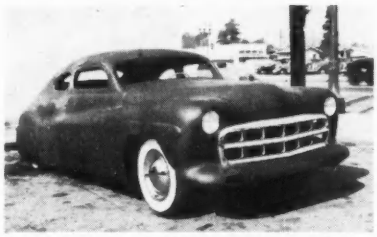
## What Is Restyling?

(*Continued from page eleven*)

*Plating, or reshaping*, is a fairly new variation on molding, actually designed to reduce the amount of lead ordinarily used to smooth out a car's contours. Instead of filling, for instance, the crevice between the rear fender and the body with lead, a curved, light sheet of stock is brazed or welded onto the body and the fender. Lead is then lightly applied over the welding (or brazing) humps and the whole contour smoothed out, thus saving a deep fill-in of lead. Not only is lead heavy but it is expensive.

*Planing* is usually applied to any smoothing-out operation used on a metal panel and forming is any operation applied in order to re-create the form of the panel. *Shaving* is usually applied to the re-formation of the hood and the frontal area.

Gil classifies most of the work he has done into restyling modifications and complete restyles, the latter being the actual creation of a custom-design car. This is true of most professional restylists. Either their customers want a stock model car changed here and there, retaining the original lines of the



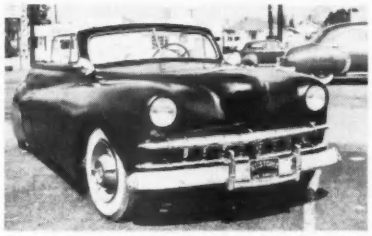
**AYALA-made '41 Ford Business Coupe has '42 Ford fenders, with fadeaways added. Six-inch cut in top, with windshield area expanded into top three inches. Hood is made from flat stock**

Detroit product, or—and this is the rare case—the customer will put out his hard-earned cash for an entirely new body on a stock chassis.

To get a conservative viewpoint, I left Ayala's shop and dashed across town to Art Lelles and Jerry Moffatt's Olive Hill Garage. These boys have been doing body work for ten years and have owned their own shop for three. They operate the same way most restyling shops do and encourage owners to do most of the work themselves. I asked them for a step-by-step account of a restyling job from estimate to paint job.

"The first thing," Jerry said, "is to find out what the customer wants. We sit down with him and work out the details of design together."

Once the design is settled, the car is stripped, the body is cleaned and all dents and breaks in the metal are fixed. Then the extra chrome, door handles and other extras that will not be used on the finished product are removed and the holes plugged. Finally the body is channeled. Art and Jerry are in favor of channeling because it strengthens the body of the car by shortening the distance from the top and the point at which the body is fastened to the frame. Also, the bond between the frame and the body is more solid because they are in contact with one another over a greater area.



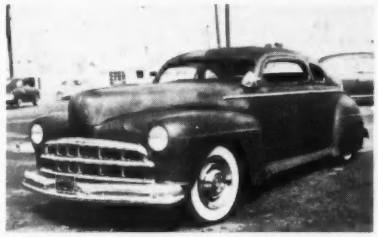
**FINISHED product, a '41 Barris-Ford. Chopped, channeled, frame-and-body-sectioned, car has been completely sealed. Grille is both '49 Pontiac and '49 Stude**

They usually leave nine or ten inches between body and ground. This brings the body line across the rear wheels just a little below the rear axle center. The boys have a definite reason for this design. They specialize in cars that are practical as well as sharp; restyling in such a way that the car will be improved as much as possible in appearance with no sacrifice in utility.

"What's the use of having a car that looks smooth if you have to lift it out of driveways?" the boys said.

After channeling, doors, fenders, hood and deck are replaced, improving the design as the work progresses. Art and Jerry have a special gimmick they use on hoods. In order to prevent the usual heat-warping of these panels when the two pieces of these panels are welded, they cut the hood (or deck) lengthwise and insert an extra strip of their own design. This exact process is a trade secret, however, and I shall respect their confidence and not disclose the gimmick—I don't quite understand it myself, anyway.

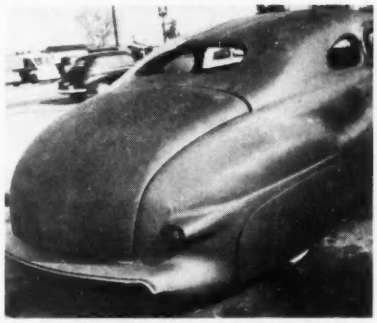
In this shop, fenders are replaced with the conventional bolts, instead of being brazed or welded to the body panels—the high cost of repair, you know. Bumpers are moved close in to the body to remove the ungainly presence of the brackets, tail lights are made of heavy lucite or Plexiglas and placed in the bumper guards, and turn-



**CUSTOMIZED '48 Merc coupe by Barris for Larry Robbins of Beverly Hills is ready for painting. Special underbase follows primer, then 8 gallons of color coat added**

indicators are set into the bottom of heavy fore and aft license-plate brackets which, of course, are on the bumpers. In this shop, tops are chopped only to a moderate extent ($3\frac{1}{2}$-4 inches is considered plenty for the 1941-47 Fords, for instance) in order to provide reasonable visibility to the front, sides and rear.

In general then, I thought as I wended my way home, the restyling trend seems to be towards the creation of as much of a custom car as the customer can afford and the restylist can originate. Although the actual processes of creating the effect of a restyled car have become standardized, the restylists appear to be attempting to arrive at as distinctive a car for each customer as the cost of the operation will permit—and this is good. Perhaps the bitterness against the restyled car is misdirected; it is those who imitate and copy the restyled car poorly, inexpertly, and without a knowledge of the fundamentals of line, shape and form, who are putting offensive blots on the highways. If plans for the future mean



**SWEPT-down design shown, with gravel pan molded into body and fenders. Tail lights are made from pattern, not leaded**

anything, and if absolute sincerity of purpose and an inherent appreciation for a balanced, thoughtful, and functional theory of design are any signpost pointing to the trends in restyling, then automobiles in the United States have really nothing to worry about—they'll be all right.

# INSTRUMENT Trends

BY WIRT STRICKLER

INSTRUMENT DIVISION SALES MANAGER

With the development of the modern-day automobile, constant improvements have been made—the trend being toward high-speed engines, automatic transmissions, and overdrives. But, too frequently the modern-day driver makes the complaint that he is getting poor gasoline mileage and that his maintenance costs are increasing. This makes the vacuum gauge, a comparatively simple instrument, more important than ever; for through use of this gauge the man behind the wheel can get maximum efficiency from his automobile.

How can a vacuum gauge reduce operating expenses? First of all, let's examine how this instrument functions. With the vacuum gauge dial-indication being in direct proportion to the available horsepower of the engine, the following readings will apply: When idling, a warm engine in good condition should have a gauge reading of 18 to 22 inches of vacuum and the pointer should be steady. This indicates no horsepower being delivered. Any variation in this reading indicates a faulty condition. As the car is started, the pointer will move toward zero indicating a load on the engine. A reading of 10 shows that approximately 60 per cent of available horsepower is being used and a reading of 5 shows that approximately 85 per cent is being used. When the reading is under 5, the engine is working in the overload or lugging range. A reading above 10 should be maintained for greatest efficiency.

Carrying these facts one step further, the Alemite Company of Southern California has developed the "Motor Minder Kit," which is designed around a vacuum gauge. Most drivers know that excessive use of the choke and pumping of the foot throttle wastes gasoline. But most do not know when they are driving in the range of maximum gasoline consumption, the overheating range, or when they are burning an excessive amount of oil. The vacuum gauge of the "Motor Minder" tells you these things at a glance. It is not even necessary for you to remember numbers on this gauge, for the various ranges are indicated in color by the words, POOR, FAIR, GOOD, IDLE and DECELERATE.

When climbing a hill, the "Motor Minder" will tell you when to shift gears to avoid the overheating, or lugging range. Driving for a long period of time in this range will not only increase gasoline consumption, but it will also cause the engine to overheat. This, in turn, can be the cause of warped or burned valves, and excessive bearing wear.


The "Motor Minder Kit" consists of a Stewart-Warner vacuum gauge that has the ranges marked around the dial in different colors for quick identification. This gauge has a full sweep of the pointer, a heavy duty mechanism and a chrome bezel. The kit also contains a bracket for mounting the instrument under the dash, a light for night driving and all the necessary fittings for quick installation. It is available for all cars, and can be installed in less than five minutes. The kit lists for $10.95. A four page pamphlet on Economy Driving is furnished with the kit or can be made available to interested persons for ten cents to defray mailing and handling costs. For further details and information write: The Alemite Company of Southern California, Stewart-Warner Instrument Division, Washington at Hope, Los Angeles 15, California.



## Race in the Rain

(*Continued from page sixteen*)

firmly bogged. Duntoz waved them away, remembering the "no help allowed" rule.

By this time the boys in the pits were quite busy. They had to refuel their charges with a minimum of five gallons of strictly pump fuel; no benzol, methanol, or other racing mixtures were permitted. And over on the official platform, in front of the Inlet Court Hotel, another well organized form of chaos existed. Many of the people heard, but did not see, the race. Others followed one car only, barking its passing on every lap to their teammates. These were the official scorers who executed intricate calculations as the race progressed.

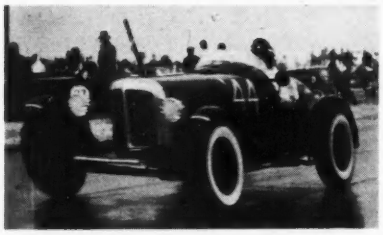
While part of the circuit was wringing wet, other sections were bone dry. Nobody drove off the course where it was wet—only in the dry spots! Which might prove something if speeds "in the wet" had been noticeably slower. They weren't.

Due to a temporary mistake of the scorers, who were handicapped at the finish line as fans swarmed around Huntoon's car, George Rand was listed as seventh. He filed a formal protest, and after a three hour recheck of the records he was found to be correct. He had captured third spot behind Huntoon and Briggs Cunningham!

Huntoon covered the 105 miles in 1 hr. 54:40, averaging 57.4 mph, an amazing speed when one considers that the longest straightaway on the circuit was 0.6 of a mile, that the road was too narrow to permit three cars abreast, the multiplicity of corners, and the weather.

All cars were subjected to the most rigorous technical and safety inspections and all were required to conform to the "Code Sportive" of the F.I.A. The purpose of complying with these regulations is two-fold. Foreign entrants are able to compete without major alterations, and conversely, these cars may compete in any sports car event on any circuit abroad without chassis and body alterations—a point well worth remembering by those contemplating the construction "from scratch" of a bonafide sports car.

The drivers held not only Senior Competition Licenses issued by the Sports Car Club of America, but 1950 AAA International Licenses as well. The race was AAA sanctioned and was the first race in the world sanctioned in 1950.



**HUNTOON screaming through a cloudburst. Note taped headlights and large rear-view mirror on this Ford-Duesenberg**

**Details of Winning Cars**

*First:* Ford-Duesenberg, 280 cu. in., Class C "special" with bored and stroked Mercury engine. Chassis is two-place Indianapolis Duesenberg, with suspension and steering geometry revised for road racing. Body altered to meet F.I.A. specifications.

*Second:* Cadillac-Healey, 331 cu. in., Class B. Uses stock '49 Cadillac engine, without Hydra-Matic, in stock Healey ("Silverstone" model) chassis. Air scoops were attached to the front brake drums and a "bump" pounded in the hood top to accommodate carburetor. Bhp of 160, pulling a complete road weight of less than 2500 lbs., obviated use of first gear, and in normal driving only top gear is used!

*Third:* Ferrari, 121.7 cu. in., Class E. This 12-cylinder, double overhead camshaft powerplant roars into life for only the most auspicious events. It was decompressed for this race, the regular diet being pure methanol. The five-speed gearbox responds only to the touch of an expert, as does the very positive steering.

*Fourth:* Jaguar, 210 cu. in., Class C. This car was absolutely stock. *(Complete description on page twelve—Ed.)*

*Fifth:* Healey, 149 cu. in., Class D.

**BRIGGS Cunningham, at the wheel of his Cadillac - powered Healey Silverstone**

Delivered in New York by Donald Healey, the engine was immediately dismantled, polished, and compression raised to 8.5 to 1. Otherwise the car was stock. These engines of Riley manufacture carry twin cams high in the block, which operate inclined rockers by means of short pushrods. Combustion chambers are hemispherically shaped, resulting in high efficiency without resorting to high machining costs inherent in overhead camshaft design. These cars, although fast in their class under formula racing, are underpowered according to American standards for a car of this size.

*Sixth:* Ford-Riley, 276.7 cu. in., Class C. The only thing Riley about this car is the body—everything else came either from Dearborn or Southern California. Exceptions: four Pirelli (Italian road racing) tires. Exact reworkings are the owner's secret. Although the engine has tremendous

**GEORGE Rand, in a Ferrari, placed third at the 1950 Palm Beach Shores Road Race**

low speed torque, it nevertheless wound up tight during the final lap at Watkins Glen last September to pass the Ferrari.

*Seventh:* Cadillac-Allard, 331 cu. in., Class B. Imagine a light car with 160 bhp that can absorb all the torque poured on at once, in any gear, without a trace of wheelspin! This J-2 Allard, with a stock Cadillac engine, boasts an intricate "Dubonnet" rear suspension and was, without doubt, the hottest car in the race.

*Eighth:* Jaguar, 210 cu. in., Class C. This car was so new that its driver was obliged to hold a "rev limit" throughout the race.

*Ninth:* MG, 76.25 cu. in., Class E. This TC, in addition to being blown by an Italmeccanica supercharger, has polished ports, larger valves with stronger valve springs, reworked ignition, and an absence of weighty gadgets.

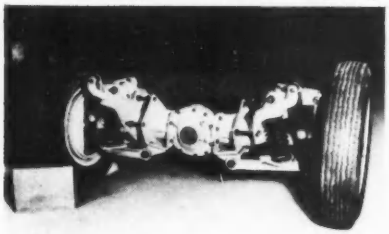
*Tenth:* Ford-Fiat, 140 cu. in., Class D. This completely reworked Ford V-8 60 was in an ultra-streamlined aluminum coupe body that is exceptionally roadworthy.

# tendence continente

## TRANSATLANTIC NEWSLETTER

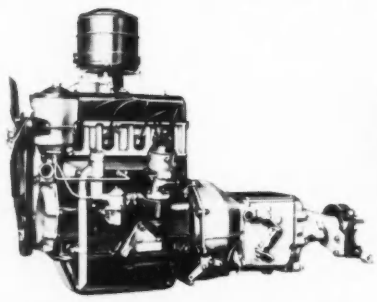
*by A. Devereux*

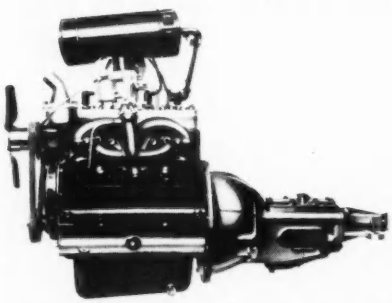
*NEW AND INTERESTING:* France has promising plans for '51, including production of the Hotchkiss-Gregoire and the Mathis, both now in prototype form, each potentially sensational. The Gregoire, designed by the engineering genius of the same name, is a revolutionary design featuring almost total use of light alloys for every part of the car, and has a two-litre (122 cu. in.) flat four engine. . . . Both cars are aimed for the "austerity" market, but the Mathis is based on the somewhat American idea that the cheapest car to maintain is one with a big engine, rather than a loaded-to-the-limit small engine. The car is, in fact, "French-American," with strong U.S. influence (see photo). The frame has side members flush with body sides, front and rear seats are six feet wide, and the ingeniously hung front and rear wheels have identical geometry. Wheels are of the popular French type, with rim bolted directly to lugs on the brake drum, making for reduced unsprung weight, excellent cooling of drums. Engine is a Mathis flat six, opposed, with the rocketish bore-and-stroke of 3½ and 3 inches, respectively . . . England has a new sports car in production, the "Paramount." More Frazer-Nash than MG in appearance, it sells for the unusually low price of about $1400 f.o.b. It's powered by the 71.5 cu. in., four-cyl. English Ford "Ten" (same as German Ford "Taunus") mill, runs two S. U. carbs, has transverse leaf and wishbone i.f.s. The body is of 16-gauge snap-on aluminum panels on an ash frame. Cheap to buy, operate, and maintain, and exceptionally good-looking.



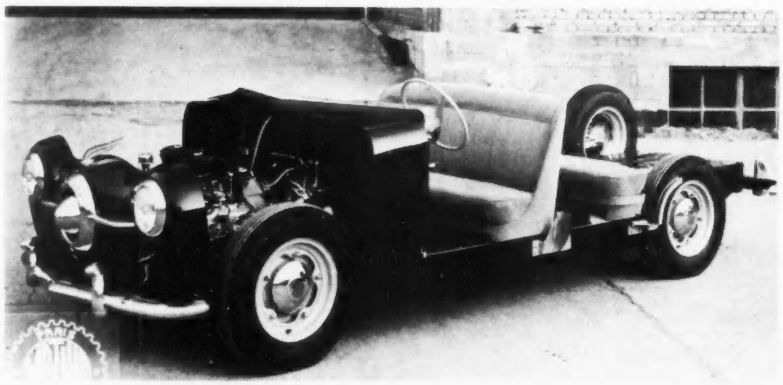
**REAR axle assembly of new French Mathis prototype—independent suspension with dual coil springs, tube shocks**

*IN GENERAL:* Recently returned to General Motors control, Germany's Opel factory is producing the postwar model, the "Olympia." Not a very Volksy-wagon, it's roomy, with '38-Buickesque radiator lines and the gaudy kind of grille, labeled overseas "the dollar grin." The 37 bhp, 1½-litre (91.5 cu. in.) engine gives 27 mpg and 70 mph . . . Czech car production is booming. Predominant makes: Skoda and Tatra. The dazzling sports model "Tatraplan" was a star of the recent Brussels show; it's a two-litre (122 cu. in.), flat four, air-cooled rear engine job that looks a good deal like the Xydias-Batchelor 190 mpher . . . Significant note: In the U.S. they're called "wreckers," in England, "dismantlers" . . . Mail-order items: For Citroen owners and dealers, dual Solex carb kits, including manifold and linkage, are available for about $80, f.o.b. London. Incidentally, if your car has a Solex carb, you can get a free book on the subject from the factory. And would you like to have your own GP racing stable? Mercedes, Bugatti, Maserati, etc.? They can be had in accurate scale model form, wire wheels and all, from an English company for about $2 each. All addresses available from this writer . . . Renault's English factory is back in production. One of the first "foreign" car plants in England, it was set up in '05.



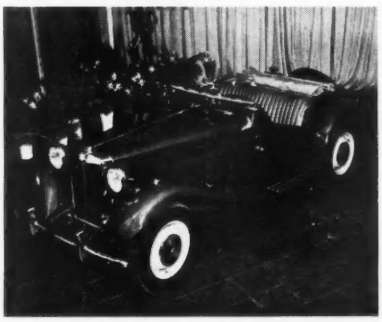


**CONTENDING for a place beneath the Nash N.X.I. hood are: left, the standard Triumph 1247 cc and, right, the FIAT 1100 cc engine. Either engine gives top speed of 65-70 mph**



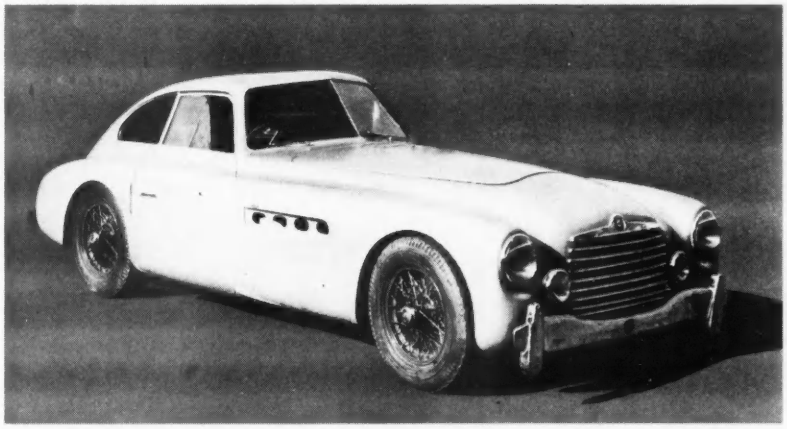
**MATHIS "666" chassis frankly stresses American inspiration in much of its design**

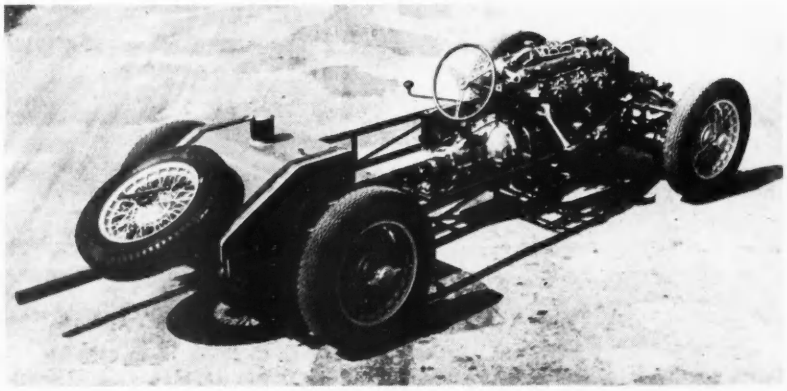
*SPORT:* Carraciola has taken out Swiss citizenship, retired from driving, and will enter and manage racing cars. But why Switzerland? Perhaps this isn't *the* reason, but it makes us wonder: The tiny, immensely refined 1½-litre Mercedes that mopped up at Monza and Tripoli in '39 were carefully sent to Switzerland for safekeeping during the war years, not undue caution, since the two cars had cost over a million dollars to develop and build. In due time, the Swiss impounded the cars, which still had scarcely made their début. If Meisterfahrer Rudi had this in mind when he became a nationalized Swiss, then the remaining years of present Formula A racing should be more colorful and exciting than anyone has hoped . . . '49 Grand Prix resumé: Formula A Ferrari was feverishly developed throughout the season, with the payoff at Monza, where the all-victorious two-stage, twin ohc version appeared, with bhp of 300 plus. Two Ferraris are slated for this year's Indianapolis 500 . . . Independent drivers favored the 4CLT Maserati and the four-cyl, 16-valve mill was worked over till bhp



**1950 MG-TD has many improvements—coil spring i.f.s., rack and pinion steering**

hit around 250 . . . France scored with the Talbot-Lago, which nosed out the Ferraris in the Belgian GP, not for the first time winning on pit stops . . . 500 cc racing came into its own, with England's Cooper, powered by J.A.P., Vincent, H.R.D., and Norton mills, the outstanding winner . . . Sports car racing boomed back into the spotlight, high point being the revival of the ever-popular Le Mans 24-hour race in France . . . Production car rallies returned, and the classic Monte Carlo Rally was run for the first time since the war . . . This season will of course be even more active, the Ulster Tourist Trophy, English R.A.C. Rally, and Belgian R.A.C. 24-hour sport car race at Spa being among the classics booked for rebirth.





**SLEEK lines are combined with performance in the Nardi line, car builders in Turin, Italy. Chassis and bodies to take powerplants from 500 cc (30.5 cu. in.) to 4½ litres (274.6 cu. in.) are provided. The top photo is the 2500 cc (152.6 cu. in.) chassis. Similar car is shown in above photo with an Alfa-Romeo 2500 cc engine. The frame is tubular, aircraft construction. Suspension is by quarter elliptics in rear with solid axle and transverse spring with torsion bar in front. Bodies are extremely low**

**BRISTOL Type 400 saloon, with unitized frame construction, seats four and has wheelbase of 114 inches. Engine is six-cylinder of 1971 cc (122.2 cu. in.) capacity, producing 80 bhp at 4200 rpm. Aluminum head contains inclined ohv, pushrod operated. Suspension is by transverse leaf spring in front and torsion bars in rear**

## A NOTE... To Our Readers

### SOMETHING NEW . . . SOMETHING BLUE . . . . . has been added

We think that it is a great improvement over brown, which, although distinctive, made it hard for our readers to spot on the newsstand.

This is just one of the many constant improvements that we will be making from time to time to make MOTOR TREND your favorite magazine.

In line with these changes, MOTOR TREND will be sporting a new cover next month . . . the May 1950 issue. The same blue will be used, but the design will be quite different. We're sure that you will like it.

**And for the convenience of our regular readers, we are showing a preview illustration of what the new cover will look like. . . .**


☆ ☆ ☆

**For those of you who have recently subscribed to MOTOR TREND and wish to complete your back-issue file, we are happy to provide the convenient order blank below. Check desired issues and mail early, as only limited supplies remain.**

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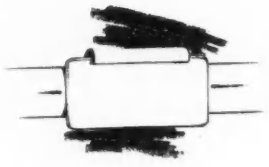
# Styling Hints

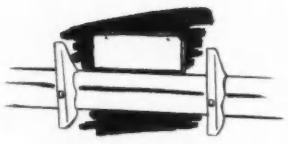
*NOTE: Restyling and customizing are two things that, like other arts, are better left to the masters. However, there are many small items that an individual, with the proper tools, talent and patience, can perform. That is why this page, each month, will be devoted to styling hints—hints that an individual can take advantage of, either by doing the work himself or by contracting a stylist to do the work for him.—Editor.*

VARIATIONS in methods of mounting or relocating license plates on the rear of cars are almost unlimited. With a little ingenuity, the license plate and bracket can be installed in a position that is both pleasing and practical.

Almost invariably, if the license plate was originally mounted on a fender, it is reinstalled on the turtledeck; if it was on the turtledeck, it is removed and mounted on the bumper. The following hints apply to either or both of these original installations.

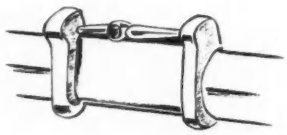


One method of mounting the plate on the bumper consists of bolting the plate to the back side of the bumper. Install a curved angle light bracket (obtainable from custom accessory shops or made up from a flat sheet, rolled and chromed) above the plate. Place the light bulb in a position to shine down on the license plate.

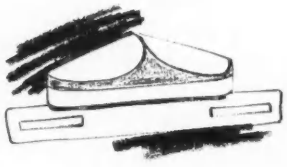


Another method of bumper attachment is to use a license bracket (available from custom accessory shops) that bolts onto the bumper. This type of bracket positions the license in front and above the bumper. One or two light bulbs are then installed between the bracket and the bumper.

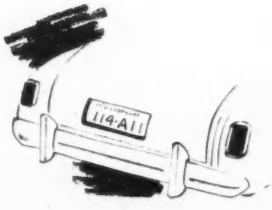
A third bumper installation consists of using a late model Buick Super bumper and guards, or just the guards. Bolt the license plate to the center of the bumper and with the bumper guards in place, the light bulb will shine down on the plate.



To install the license plate on the turtledeck it is necessary to do a bit of drilling and to reroute the electric wires. Several types of flush-mounted, integral bracket and light units are available from custom accessory shops.



If desired, the license plate can be sunken into the turtledeck. This involves torch work and building of support angles for the plate. Two main considerations in this type of installation are to make use of good lighting and to make the cutout large enough so that the license plate will be fully visible from all angles.




DRAWINGS BY THOMAS J. MEDLEY

## A Production Sports Car?

*(Continued from page twenty)*

nize the slim possibility of a domestically produced sports car within the next four years. So you can look to these dealers to develop or import added means of converting American production-line cars to sports car performance. In line with this, the I.T. supercharger will soon be made available for most American-built cars.

A reversal of the theory, discussed earlier, of an American manufacturer building a sports car with a European type motor installation is the new Mexican sports car, the Nacional, a two-seater, 96-inch wheelbase cleanly designed car created by the D.M. Nacional metal-furniture company. It is planned that a Ford engine will be used. A hand-built model, with a Ford installation, is reported to have exceeded 95 mph. Sales price of the Nacional is expected to be approximately $2,000 (delivered at the factory in Mexico City). No actual performance road test data is as yet available but MOTOR TREND will give a more detailed report on the Nacional in a later issue.

While it may be unpleasant for the sports car enthusiast to read this, the fact is undeniable that rumors of a production-line sports car (excluding the Crosley) are just rumors. The further popularizing and revival of road racing may produce a change in the manufacturers' judgment, but such a change is remote.

This leaves one question in mind—why do the Europeans with a far lesser over-all car market find it practical to produce a sports car, while the United States, with a vast buying market, shuns the production of one? The answer is this: our excellent roads have cheated us out of a sports car. The feather-bed ride one has come to demand of an American car would be wholly impractical on the normal, poorly paved, narrow, twisting European road, which requires faster wheel action and harder springing than is necessary for our highways. The Europeans have built what we consider a sports car for necessity. To them it is not a "sports" car, but a utility. We duplicate their inferior roads for sport. We do not *need* a sports car, even though we may admire it, any more than the normal American office worker requires hobnailed climbing boots or three-quarter-inch thick waterproof British boots . . . at least that is the view taken by the production-line manufacturer.

# DUSTER DATA

*by Tracy Gilpin*

AT THE turn of the century, the horseless carriage was roughly comparable to atomic energy today . . . as a barbershop conversational piece, that is. Motor car boosters discussed at length such accomplishments as the feat of Louis Ross on Boston's Readville Track. In the summer of 1900, at the wheel of a 20 horsepower Stanley Steamer, Ross was clocked for 5 miles in 5:33.06. Or they bragged of John Bushen Walker's almost unbelievable non-stop 11,000-foot ascent up Pikes Peak by auto.

Automobile's detractors gloated over the anecdote of a Newport, Rhode Island, steam-car owner who neglected to turn off his car's fuel supply and garaged it with steam still being generated. The safety valve failed to work. Newport car-haters spread the story of the resultant explosion with glee.

Car insurance was hard to obtain and exorbitantly expensive because of the following report circulated universally among insurance companies of the period. "Quite apart from the fire hazard, nothing could be more unsatisfactory to insure . . . because upon the slightest accident by fire to a good motor car the whole has generally to be returned to its makers—frequently to Paris, and with the monopoly, the delicacy and skill of workmanship necessary together with high rates of such labor the bill generally works out to about the price of an entirely new vehicle."

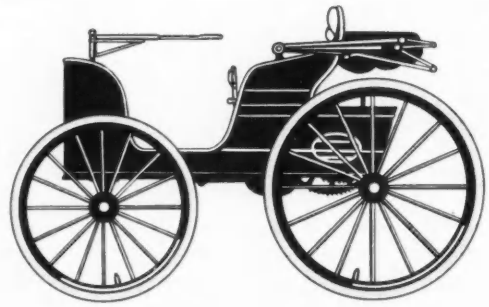
**Only 400 Autos in Chicago**

In 1900 there were only 400 motor cars in the entire city of Chicago and almost all of these were foreign-built. There was still much truth in the insurance report above, based on the then quite factual saying that "as the Parisian modiste sets the style in feminine dress, so the motor car manufacturer of that famous city sets the fashion in things pertaining to automotive locomotion; and it is at the annual show held in Paris' spacious Grand Palais each December that the Paris motor models for the coming year are exhibited."

The best known automobiles were still the imported De Dion-Bouton, Peugeot, Panhard-Levassor and Benz, although Americans had not yet taken too kindly to the French word "automobile" and commonly referred to horseless buggies variously as "petrocars," "vapor wagons," "motocycles," "quadricycles," and "buggyauts" (Charles E. Duryea's name for his motor wagon).

Alexander Winton, Ransom Olds and Charles Duryea were the standouts among the domestic gasoline car builders, but people with money in 1900 continued to buy foreign-made cars.

COURTESY OF CRESTE-ANDOVER CO.



*Duryea's Motor Wagon, 1893*


LATE in January, the 1950 Lincolns were announced. They are basically the same, although many mechanical improvements have been made—including changes in steering, new three-ring pistons, improved carburetor, automatic choke and spark control, heavier frames, and a new grille. Other changes are in interiors, and for quieter ride, Fiberglas insulation has been added to both models.

★ ★ ★

ODDS AND ENDS: Willys-Overland will soon be announcing their new "F" head (one side valve and one ohv) engine . . . Willys-Overland has also come up with a new military Jeep that runs under water . . . The new Kaiser-Frazer low-priced small car was shown to the public for the first time at the Chicago Automotive Show. It is a two-door, five-passenger sedan and will be lower in price than the Chevrolet-Ford-Plymouth class (see photo).

★ ★ ★

MORE ABOUT THE KAISER: The new Kaiser "low-priced car," definitely not a "small car," will appear on the highways in July. Car will give gasoline mileage of 30-35 miles per gallon, has standard tread, has an overall height of 60 inches and has a trunk compartment behind the rear seat, which folds down. Price — around $1200. Engine is either a four or a six, depending on customer's choice.

(Con[illegible] on page thirty-three)

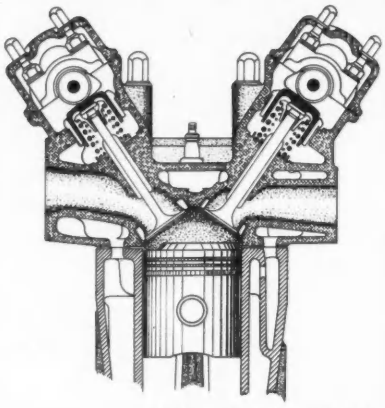
## Jaguar XK-120 Sports Car

*(Continued from page thirteen)*

through oversize galleries and lines to all bearings. The balance of the main reciprocating parts are of interest, in that the aerolite aluminum alloy pistons have chromium-plated top rings that will increase the life of the cylinder bores. Connecting rods vary from the usual in that they are also of a light alloy. Engine cooling is well taken care of, incorporating directed flow across the head by a high-pressure pump. The block has a water jacket that entirely surrounds each cylinder and extends to the bottom of the barrels. Cooling of the block is controlled at a constant temperature.

It is well known that one of the best shapes for a combustion chamber is hemispherical, which allows a minimum heating area, higher thermal efficiency, short flame travel, better porting, and various other advantages. To gain these, the Jaguar is, of course, equipped with a hemispherical combustion chamber. The detachable cylinder head is of a high tensile aluminum alloy with valve seats of special high expansion cast iron alloy shrunk into the head. Dual overhead camshafts have been used to reduce to a minimum the problem of valve bounce and spring surge at high rpm's due to a heavy reciprocating mass in the valve operating mechanism. The cam lobes operate directly upon featherweight piston-type tappets installed in a manner similar to the Offenhauser. The cams and tappets operate in oil baths; however, drainage galleries prevent valve stems from receiving an excess of oil.

Drive to the overhead cams is by means of a two-stage, duplex roller chain, providing a simple, reliable, and quiet method of operation. To obtain



DRAWING BY ROBERT N. HOEPPNER
**CUTAWAY of the combustion chamber**

maximum volumetric efficiency from this design, the correct relative sizes of intake and exhaust valves, the size, shape, and contour of the ports must be taken advantage of. To accomplish this, the services of Mr. Harry Westlake, a specialist in this field, were called upon, with remarkable success.

The four-speed transmission has synchro-mesh on the three top gears, and is operated by a remote control shift lever mounted in the center and somewhat aft of the transmission. Final drive is by an open Hardy Spicer drive shaft, and a hypoid bevel gear differential mounted upon two large half-elliptic springs.

**Conclusion**

As a technical achievement, the Jaguar is outstanding. Not because it is unorthodox in any detail, but because it incorporates the most advanced technical knowledge available on naturally aspirated engines of today. Since the Jaguar has combined comfort and high performance, it is evident that Jaguar Cars, Ltd., has produced a car that will be honored and admired by motoring enthusiasts for many years to come.

# TRADE TOPICS

OWNERS of Olds 88's and Cadillacs will be pleased with the announcement that the Italmeccanica supercharger will be available shortly for their cars. At the present time, the I.T. (a low-pressure, Rootes type, "V" belt blower) is made in complete kit form for many makes. Included among these are Ford V-8 85 and 100, Mercury, Allard, MG, the Austin A-40, the Studebaker Champion, Chevrolet, Crosley, Alfa-Romeo, the 500 cc Simca and Fiat, and the two-litre Healeys. Italmeccanica, producers of the I.T., have supplied blowers for Grand Prix race cars for years, and are highly regarded in Europe. These blowers have a boost from 6 to 12 pounds and will increase performance up to 35-45 per cent. These superchargers are to be distributed on the West Coast by John Edgar of Los Angeles, California. Price varies according to model engine to which blower is installed.

★ ★ ★

COLLECTORS of rare racing photographs will want to obtain a new catalog, "Historic Auto Racing Photographs," recently published by Bell Auto Parts. This catalog contains a portion of the pictures and a complete list of all pictures in the Bell Auto Parts and Carroll Photo Service files. Included in this collection are photographs of action, starts, pit activity, cars, engines, crashes, and drivers. The catalog sells for $.50.

SOLE distributorship in United States for the Nardi has been obtained by John Edgar of Los Angeles, California. These cars, with tubular, aircraft construction frames, can be supplied with engines from 500 cc up to 4½ litres. Last year the Nardi, shown in the photograph, with an 1100 cc (67.1 cu. in.) engine, unblown, participated in four races in Switzerland, winning three and coming in ahead of 1500 cc (91.5 cu. in.) blown cars.

# INDIANAPOLIS PREVIEW

AMONG the many interesting entries in the 34th Annual 500-Miler at Indianapolis will be a car powered by a high-speed diesel engine. The car has been entered by the Cummins Engine Company, Inc., of Columbus, Indiana, and will be driven by Jimmy Jackson of Indianapolis.

The Cummins Diesel Special is a rear-drive, six-cylinder, four-cycle, supercharged creation, mounted in a new tubular frame Kurtis-Kraft chassis. The engine has a bore of 4.125 inches and a stroke of five inches, giving it a displacement of 401 cubic inches. It will be approximately 10 inches longer and 350 pounds heavier than the four-cylinder Meyer-Drake gas engines, which made a clean sweep of the 10 top positions last May 30th.

No speed concession is granted this entry as was in 1931, when diesel-powered cars could qualify at 90 mph instead of the 100 mph required for gasoline-powered cars. The only concession is in the matter of engine size.

National AAA Champion Johnny Parsons of Van Nuys, California, and Fred Agabashian of San Jose have been listed as drivers of two fast Kurtis-Kraft Specials entered by Ed Walsh of St. Louis, Missouri, vice president of Kurtis-Kraft, Inc. Parsons will be at the wheel of the same car which he used to win the AAA title after guiding it to second place behind Bill Holland of Reading, Pennsylvania, in the last 500-mile race. Agabashian will drive a brand new replica of the championship car, now under construction in California. Both creations are Kurtis-Kraft products of rear-drive design, powered by four-cylinder, non-supercharged Meyer-Drake engines with a piston displacement of 270 cu. in.

Lou Moore's four Blue Crown Specials will be driven by Bill Holland, George Connor, Lee Wallard and Tony Bettenhausen. All four cars are 270 cu. in. Offies, with Holland and Bettenhausen driving the two front-drive cars.

Two additional cars have been entered by Indianapolis Race Cars, Inc., one being powered by an eight-cylinder. supercharged 179 cu. in. engine and the other a four-cylinder, supercharged 179 cu. in. engine.

Murrell Belanger, of Crown Point, Indiana, has nominated a two-car team with Duane Carter of Detroit, Michigan, as one of his drivers. The official entry of the Howard Keck Company of Los Angeles, California, confirmed reports that Mauri Rose of South Bend, Indiana, will replace Jimmy Jackson this year at the wheel of the Keck 270 cu. in. Offenhauser, a front-drive car.

A new creation under construction in Indianapolis and entered by Sampson Mfg. Co. will be powered by the four-cylinder blown Meyer-Drake engine (described in February 1950 MOTOR TREND). Driver will be Walt Ader, of Bernardsville, New Jersey.

Ervin Wolfe, of Tulsa, Oklahoma, has entered the car that Joie Chitwood drove to fifth place last year. No driver has been named.

Additional entries will be accepted until midnight, April 15, and approximately 70 cars are expected to seek one of the 33 starting positions in the International Classic.

Reserved seats for the race still are available in two grandstands, as well as in the parquet section, and they may be ordered by mail from the Speedway's downtown office at 729 North Capitol Avenue, Indianapolis, Indiana.

# CALENDAR OF EVENTS

| Date | Event | Place |
|---|---|---|
| March 23-26 | Southwest Automotive Show | San Antonio, Texas |
| April 15-23 | Soc. of Motor Mfrs. & Traders, British Auto & Motorcycle Show | New York, N. Y. |
| April 25-28 | New England Automotive Show | Boston, Mass. |
| May 5 | Mexican Pan-American Race | Juarez, Mexico* |
| May 11-14 | Midwest Automotive Show | Chicago, Illinois |
| May 30 | Thirty-fourth Annual 500-Mile Auto Race | Indianapolis, Indiana |

**To inaugurate the Cristobal Colon Highway—2174 miles from Juarez to El Ocotal, near Guatemala—a five-day road race will be held. Limited to five-passenger stock cars, the event will have eight legs over a period of five days. Purse is $38,208.*

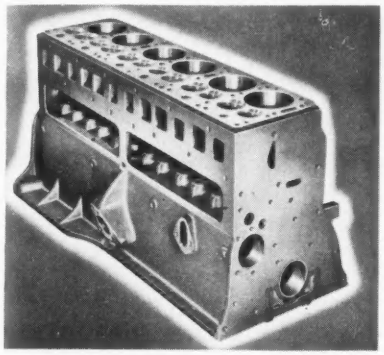
## Credit to Pomeroy

In all fairness to Mr. Laurence Pomeroy, Technical Editor of *The Motor*, we wish to state that technical material for Roger Huntington's article, "Grand Prix Racing," was obtained from the book, "The Grand Prix Car," written by Laurence Pomeroy and published by Motor Racing Publications, Ltd., England.—*Editor*

## Spotlight on Detroit

*(Continued from page twenty-nine)*

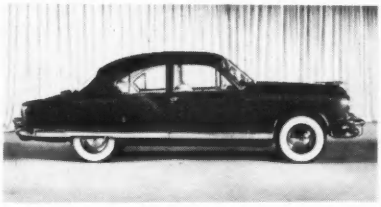
IN LINE with announcements by other manufacturers, Hudson has cut the price on the new Hudson Super and Custom Commodore models from



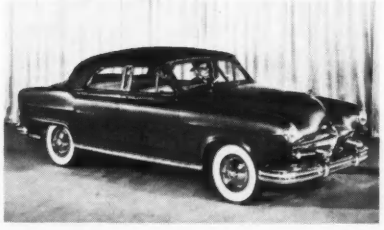
$87.50 to $116.50. Changes in these new models are: more luxurious interior, slight body styling changes, and increased hp engines. Super-Six, with 262 cubic inches, now rates 123 hp, while the 254 cu. in. Super-Eight rates 128 hp. Both engines use chrome alloy cylinder blocks, which cuts down on frequency of valve grinding, reduces valve and tappet wear, and resists cylinder bore wear, keeping oil consumption at a satisfactory level for a longer time than possible with a softer block.

★ ★ ★

MARKED styling improvements are evident in photographs of 1951 Kaiser and 1951 Frazer Manhattan pseudo-sports convertible. Kaiser comes in 12 body types, Frazer in five. Engine for



both delivers 115 hp at 3650 rpm, with compression ratio of 7.3:1. Hydra-Matic transmission is optional at extra cost in both models.



# LETTERS...

## FROM OUR READERS...

*Letters published in this department are the opinions of the writers and are not to be construed as those of the editors. Address correspondence to: Letters From Our Readers, MOTOR TREND, 548 South San Vicente Boulevard, Los Angeles 48, California.*

### A PRODUCTION SPORTS CAR?

Gentlemen:

Would you please give us a discussion on the possibilities for sport car production by an established domestic manufacturer such as Ford, Chrysler, or General Motors? It would seem that there is a potential market in this country for a sports car similar to the Allard illustrated on page nine of February MOTOR TREND.

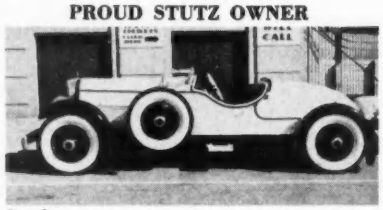
Perhaps such a car could be derived from a modified chassis and mass produced at a competitive price. I am sure there are thousands who would welcome this type of car, if made available by a well-known domestic producer. The specifications could include a Plexiglas canopy to increase all-weather usage, in addition to the usual limited equipment supplied.

While competition events are not very numerous in this country, it would not be long before considerable enthusiasm was evident, with the proper vehicles available and a little encouragement from the manufacturers. Why should the Europeans go ahead of us in a field which is so typically American? Why not an American produced sports car? Why not?

J. H. Wilson
Portland, Oregon

*—Anticipating the need for an article on the above subject several months ago, we asked staff writer H. Weiand Bowman to investigate the possibilities of a production-line sports car. The results of his findings have been consolidated into the article on page eight of this issue.—Editor.*

### PROUD STUTZ OWNER



Gentlemen:

Every now and then I notice Stutz mentioned in your magazine. This interests me in particular since I own two Stutz Speedsters. One is a DV Bearcat and the other is a Torpedo Speedster. The enclosed photo shows the Torpedo, with some modifications . . . I intend to restore it to original (condition).

The car . . . ran stock at the 1930 Indianapolis Race, came in tenth. It had no trouble and finished the 500 miles at better than 85 mph average.

Tommy Wolfe
Long Beach, California

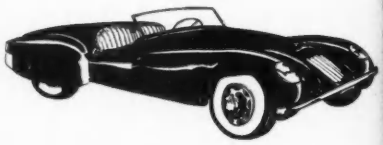
### AMERICAN SPORTS CAR?

How about joining the battle for a small, peppy American Sports Car for a reasonable price? The "Champ" comes close for size, but needs "soup."

R. E. Hayward
Manhattan Beach, Calif.

*—For one that agrees with reader Hayward, see page 16 of the January issue.—Editor.*

### MY IDEAL SPORTS CAR



Gentlemen:

Enclosed is a sketch of my idea of the kind of sports car America needs. It should be powered by a Ford or other domestic engine. It should have a removable metal top, be equipped with a heater and, if in production, should sell for about $2000. The windshield should also be removable, the space behind the driver makes ample room for spare tire and luggage. Tires should be a standard size, about 6.00x16.

I admit that this car looks like a classic sports car of Europe—Jaguar, Healey, etc.—but I think that our designers could learn from those cars, while designing for the sport field.

F. D. Boudeman
Kalamazoo, Michigan

### REBUTTAL FROM READER KELSEY

Gentlemen:

Far from being sorry for having made "a rash statement" (see letter, Dorman S. Kelsey, MT, Feb. '50), I'm delighted with discussions I have fostered. It's a wonderful thing to live in a country where we still can openly express our views, be they pro . . . or con.

In order to clarify my original viewpoints, which have apparently misled a number of your readers, may I be allowed to list, briefly, a few of the features which I feel should be found in a really good automobile, old or modern, American or European:

ENGINE: Overhead camshaft (preferable, otherwise push-rod ohv), high compression, multiple carburetion, full-pressure lubrication, four-speed close-ratio gear box, overdrive.

CHASSIS: Preferably incorporated into the structure of the body, but at any rate, correctly designed to provide ample road clearance and a properly designed front suspension and steering geometry.

BODY: Of strong and well-designed construction, contained, as far as possible, within the wheelbase and tread, and as low as is compatible with adequate head-room, together with safe visibility all around. No excess chrome, no functionless sheet-metal work, and no unnecessary and improperly distributed weight.

In conclusion, I would like to say most emphatically that I am not opposed to good modern design, based upon a sound knowledge of automotive mechanics; on the other hand, I have been, am, and always will be opposed to ill-conceived and abortive alteration jobs being touted as the latest "modern custom design."

My car? 1946 Chevrolet Town Sedan, stock body, reworked engine. My favorite car? Not in this letter, please!

David Kelsey
Beltsville, Maryland

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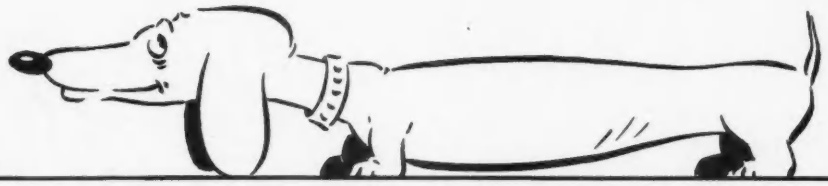
# CHANNEL JOB?



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It is with great pleasure that I submit the following results of our dynamometer tests on your new exhaust system for Fords and Mercurys.

1950 Ford with completely stock 100 H.P. V8 Engine and Exhaust System. Test No. 1 56 Road H.P. at 55 M.P.H.

Same Car after installation of your Complete Exhaust Header and Dual Muffler Set. No other changes. Test No. 2 60 Road H.P. at 55 M.P.H.

By comparison, this shows an increase of four (4) Road H.P. at the same speed on both tests, which was the maximum H.P. in both cases.

These tests were conducted on our 200 H.P. Clayton Chassis Dynamometer.

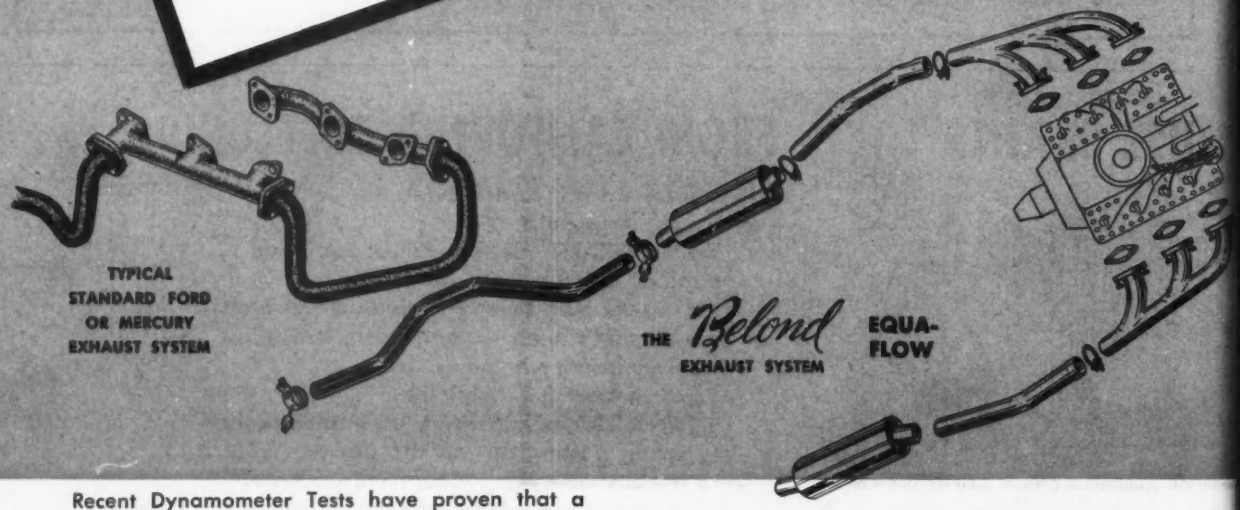
Very truly yours,
Nick Glarraro

## Belond

### Equa-Flow

**COMPLETE HEADER AND DUAL MUFFLER SETS**

**actually increase horsepower on Fords and Mercurys**



TYPICAL STANDARD FORD OR MERCURY EXHAUST SYSTEM

THE Belond EQUA-FLOW EXHAUST SYSTEM

Recent Dynamometer Tests have proven that a Stock Ford Engine can deliver more Horsepower to the wheels when the Standard congested Exhaust System is replaced by a BELOND EQUA-FLOW Exhaust System. This proves that a Ford or Mercury does not have to be equipped with Racing Equipment to need the Belond Exhaust System.

However, as other improvements are made which increase engine horsepower, it becomes necessary that an efficient exhaust be provided to allow the added horsepower to get to the wheels. There is no advantage in getting higher compression and more fuel into the engine if the exhaust can't get out fast enough to prevent back pressure.

**FINISHED IN CHROME HEAT RESISTING PAINT**

**AVAILABLE AT YOUR LOCAL DEALER OR**

**Southern California MUFFLER COMPANY**

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